MANAGEMENT CONCEPTS - QUICK GUIDE

ACTIVITY BASED COSTING *ABC*

Introduction

There are a number of costing models used in the domain of business and Activity-Based Costing is one of them. In activity-based costing, various activities in the organization are identified and assigned with a cost.

When it comes to pricing of products and services produced by the company, activity cost is calculated for activities that have been performed in the process of producing the products and services. In other words, activity-based costing assigns indirect costs to direct costs. These indirect costs are also known as overheads in the business world.

Let us take an example. There are a number of activities performed in a business organization and these activities belong to many departments and phases such as planning, manufacturing, or engineering. All these activities eventually contribute to producing products or offering services to the end clients.

Quality Control activity of a garment manufacturing company is one of the fine examples for such an activity. By identifying the cost for the Quality Control function, the management can recognize the costing for each product, service, or resource. This understanding helps the executive management to run the business organization smoothly.

Activity-based costing is more effective when used in long-term rather than in short-term.

Implementation in an Organization

When it comes to implementing activity-based costing in an organization, commitment of senior management is a must. Activity-based costing requires visionary leadership that should sustain long-term. Therefore, it is required that the senior management has comprehensive awareness of how activity-based costing works and management's interaction points with the process.

Before implementing activity-based costing for the entire organization, it is always a great idea to do a pilot run. The best candidate for this pilot run is the department that suffers from profit making deficiencies.

Although one might take it as risky, such departments may stand an opportunity to succeed when managed with activity-based costing. Lastly, this would give the organization a measurable illustration of activity-based costing and its success. In case, if no cost saving occurs after the pilot study is implemented, it is most likely that the model has not been properly implemented or the model does not suit the department or company as a whole.

Having a Core Team is Important

If an organization is planning to impalement activity-based costing, commissioning a core team is of great advantage. If the organization is small in scale, a team can be commissioned with the help of volunteers, who will contribute their time on part-time basis. This team is responsible for identifying and assessing the activities that should be revised in order to optimize the product or service.

The team should ideally consist of professionals from all practices in the organization. However, hiring an external consultant could also become a plus.

The Software

When implementing activity-based costing, it is advantageous for an organization to use computer software for calculations and data storage. The computer software can be a simple database that will store the information such as customized ABC software for the organization or a general-

purpose off-the-shelf software.

The Procedure

The procedure for successful implementation of activity-based costing in an organization is as follows:

- Identification of a team that is responsible for implementing activity-based costing.
- The team identifies and assesses the activities that involve in products and services in question.
- The team selects a subset of activities that should be taken for activity-based costing.
- The team identifies the elements of selected activities that cost too much money for the organization. The team should pay attention to detail in this step as many activities may shield their cost and may look innocent from the outside.
- The fixed costs and variable costs related to activities are identified.
- The cost information gathered will be entered to the ABC software.
- The software then performs calculations and produces reports to support management decisions.
- Based on the reports, management can identify the steps that should be taken to increase profit margins in order to make the activities more efficient.

The management steps and decisions taken after an activity-based costing experience is generally known as Activity-Based Management. In this process, the management makes business decisions to optimize certain activities and let some activities go.

Things to be Aware of

Sometimes, organizations face the risk of spending too much time, money and resources on gathering and analysing data required for activity-based costing model. This can eventually lead to frustration and the organization may give up on ABC eventually.

Failure to connect the outcomes from the activity-based costing usually hinders the success of the implementation. This usually happens when the decision makers are not aware of the "big picture" of how activity-based costing can be used throughout the organization. Understanding the concepts and getting actively involved in the ABC implementation process can easily eliminate this.

If the business organization requires quick fixes, activity-based costing will not be the correct answer. Therefore, ABC should not be implemented for situations where quick wins are required.

Conclusion

Activity-based costing is a different way of looking at an organization's costs in order to optimize profit margins.

If ABC is implemented with the correct understanding for the correct purpose, it can return a great long-term value to the organization.

AGILE PROJECT MANAGEMENT

Introduction

Agile Project Management is one of the revolutionary methods introduced for the practice of project management. This is one of the latest project management strategies that is mainly applied to project management practice in software development. Therefore, it is best to relate agile project management to the software development process when understanding it.

From the inception of software development as a business, there have been a number of processes following, such as the waterfall model. With the advancement of software development,

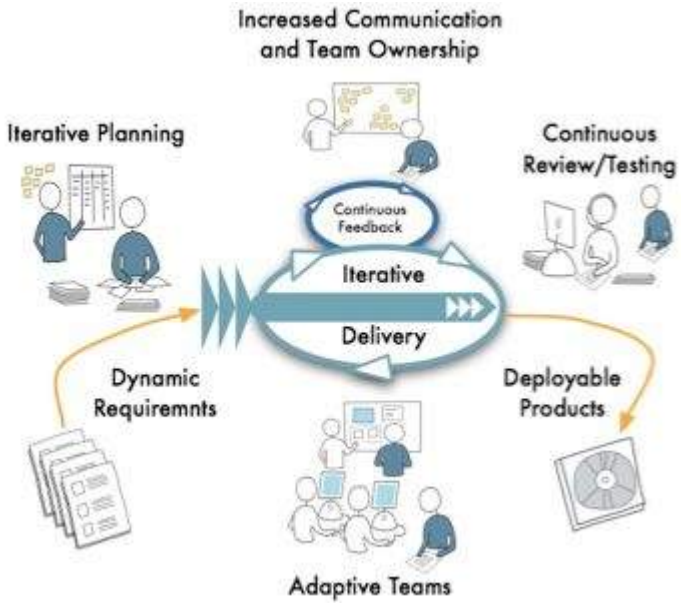
technologies and business requirements, the traditional models are not robust enough to cater the demands.

Therefore, more flexible software development models were required in order to address the agility of the requirements. As a result of this, the information technology community developed agile software development models.

'Agile' is an umbrella term used for identifying various models used for agile development, such as Scrum. Since agile development model is different from conventional models, agile project management is a specialized area in project management.

The Agile Process

It is required for one to have a good understanding of the agile development process in order to understand agile project management.



There are many differences in agile development model when compared to traditional models:

- The agile model emphasizes on the fact that entire team should be a tightly integrated unit. This includes the developers, quality assurance, project management, and the customer.
- Frequent communication is one of the key factors that makes this integration possible. Therefore, daily meetings are held in order to determine the day's work and dependencies.
- Deliveries are short-term. Usually a delivery cycle ranges from one week to four weeks. These are commonly known as sprints.
- Agile project teams follow open communication techniques and tools which enable the team members *includingthecustomer* to express their views and feedback openly and quickly. These comments are then taken into consideration when shaping the requirements and implementation of the software.

Scope of Agile Project Management

In an agile project, the entire team is responsible in managing the team and it is not just the project manager's responsibility. When it comes to processes and procedures, the common sense is used over the written policies.

This makes sure that there is no delay is management decision making and therefore things can progress faster.

In addition to being a manager, the agile project management function should also demonstrate the leadership and skills in motivating others. This helps retaining the spirit among the team members and gets the team to follow discipline.

Agile project manager is not the 'boss' of the software development team. Rather, this function facilitates and coordinates the activities and resources required for quality and speedy software

development.

Responsibilities of an Agile Project Manager

The responsibilities of an agile project management function are givem below. From one project to another, these responsibilities can slightly change and are interpreted differently.

- Responsible for maintaining the agile values and practices in the project team.
- The agile project manager removes impediments as the core function of the role.
- Helps the project team members to turn the requirements backlog into working software functionality.
- Facilitates and encourages effective and open communication within the team.
- Responsible for holding agile meetings that discusses the short-term plans and plans to overcome obstacles.
- Enhances the tool and practices used in the development process.
- Agile project manager is the chief motivator of the team and plays the mentor role for the team members as well.

Agile Project Management does not

- manage the software development team.
- overrule the informed decisions taken by the team members.
- direct team members to perform tasks or routines.
- drive the team to achieve specific milestones or deliveries.
- assign task to the team members.
- make decisions on behalf of the team.
- involve in technical decision making or deriving the product strategy.

Conclusion

In agile projects, it is everyone's *developers*, *qualityassuranceengineers*, *designers*, *etc.* responsibility to manage the project to achieve the objectives of the project.

In addition to that, the agile project manager plays a key role in agile team in order to provide the resources, keep the team motivated, remove blocking issues, and resolve impediments as early as possible.

In this sense, an agile project manager is a mentor and a protector of an agile team, rather than a manager.

BASIC MANAGEMENT SKILLS

Introduction

Management is a topic that is as vast as the sky. When it comes to the skills that are required to become a good manager, the list may be endless.

In everyday life, we observe many people considering management as - whatever that needs to be done in order to keep a company afloat - but in reality, it is far more complicated than the common belief.

So let us get down to the most basic skills that need to be acquired, if one is to become a successful manager.

The ABC's of Management

You will understand that management involves managing people and thereby, managing the output garnered in favor of the company. According to Dr. Ken Blanchard, in his famous book "Putting the One minute Manager to Work", the ABC's of management world are as below:

- **Activators** - The type of strategy followed by a manager before his workforce sets on with performance.
- **Behaviors** - How the workforce performs or behaves within the activity or situation as a result of activators or consequences.
- **Consequences** - How the manager handles the workforce after the performance.

Research shows that although we may be inclined to think that an activator's role brings about the most efficient behavior in a workforce, in effect; it is how managers handle the workforce after a particular behavior that influences future behavior or performance up to a great extent.

To quantify, activators' base behavior contribution is calculated to make up for 15 to 25 percent of behavior, while 75-85 percent of the behavior is known to be influenced by consequences.

Therefore, it is crucial that we understand and develop the basic management skills that will help bring out expected outcomes from a workforce.

Problem Solving and Decision Making

This is where most managers either get stamped in to good or bad books. However, the type of decisions you make should not ideally make you a good or bad manager; rather how you make such decisions is what need to be the deciding factor.

You will need to know the basic ethics of problem solving and this should be thoroughly practiced in every occasion, even if the problem concerns you personally.

Unless otherwise, a manager becomes impartial and entirely professional, he/she may find it difficult to build a working relationship with co-workers in an organization.

Planning and Time Management

The last thing you would want your co-workers to think is that you get by your working hours, cuddled up in an office chair, enjoying light music while doing nothing! Planning and Time management is essential for any manager; however, it is even more important for them to realize why these two aspects are important.

Although you may be entitled to certain privileges as a manager, that does not necessarily mean you could slay time as you please.

Assuming responsibility to manage the time is important so that you could become the first to roll the die which will soon become a chain reaction within the organization.

Having said that, when you conduct yourself with efficiency, you will also end up portraying yourself as a role model for co-workers which may add a lot of value as you move along with management duties in the company.

Planning ahead of time for events and activities that you foresee in your radar and taking the necessary initiatives as well as precautions as you move along are undoubtedly, some of the main expectations from managers.

If you could adapt a methodical style at your workplace and adapt effective techniques to carry out your duties with the least hindrance, you will soon build the sacred skills of planning and time management.

Delegation

Having planned everything that lies ahead and having come up with a plan for time management, you may feel that you have got more than you could chew on your plate. This is where delegation should come into play.

Becoming a good manager does not mean carrying out every task by him/herself. Rather, it is about being able to delegate work effectively in order to complete the task on time.

Many managers mishandle delegation either because they do not have enough confidence in their co-workers and subordinates or because they do not master the techniques of delegation.

Therefore, the key for delegation would be to identify the individuals that are capable of carrying out the task, delegating the work with accurate instructions and providing enough moral support. Once the task is complete, you will get an opportunity to evaluate their performance and provide constructive feedback.

Communication Skills

Nothing could be ever accomplished in the world of a manager without him or her being able to accurately, precisely and positively communicate their instructions, suggestions or feedback to others.

Therefore, you should be extremely careful in picking out your words. A 'Can-Do' attitude is something that can be easily portrayed through your words.

When your communication bears a positive note, it will run across your audience almost contagiously.

Managing Yourself & Leading Others

No matter how much charisma you may have in your personality or how good your positive communication skills may be, a manager never fails to be the one to communicate all things whether good or bad.

In your managerial position, you are exposed to both the executive layer and the working layer of an organization which makes you the ham in the sandwich.

Therefore, you may find yourself squashing and thrilling in between when it comes to many decisions.

The number one rule in managing yourself is to realize that you are a professional, who is being paid for the designation that you bear in the company. If you remember this fact, you will always remember never to take any issue personally.

Always draw a line between your managerial persona and your actual persona. It is good to bond with co-workers at a personal level while maintaining a distance in your profession. Therefore, you will also be required to draw a line somewhere.

And most importantly, you will become the sponge that absorbs heat from the higher strata of the company and delivers the minimum heat and pressure to the lower strata. Therefore, you will need to practice a fair share of diplomacy in your role.

Conclusion

Managing people and processes is a style in itself that requires dedication and experience-blended practice. The skills needed are as vast and deep as the ocean.

The basic management skills presented herein is only a doorway for you to get started on the management path that lies ahead.

BASIC QUALITY TOOLS

Introduction

Most organizations use quality tools for various purposes related to controlling and assuring quality.

Although a good number of quality tools specific are available for certain domains, fields and practices, some of the quality tools can be used across such domains. These quality tools are quite generic and can be applied to any condition.

There are seven basic quality tools used in organizations. These tools can provide much information about problems in the organization assisting to derive solutions for the same.

A number of these quality tools come with a price tag. A brief training, mostly a self-training, is sufficient for someone to start using the tools.

Let us have a look at the seven basic quality tools in brief.

1. Flow Charts

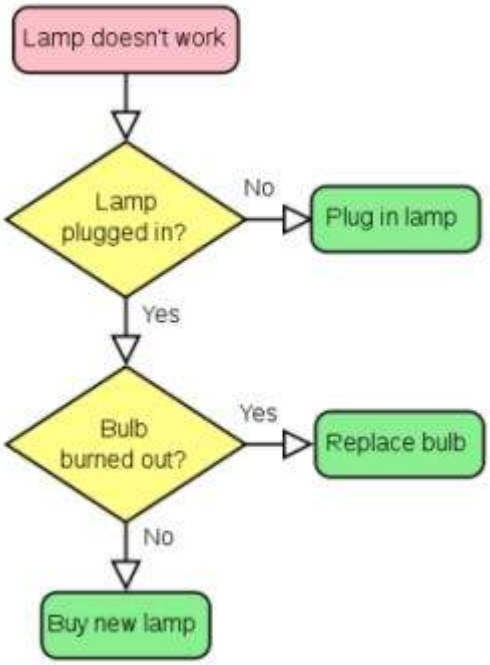
This is one of the basic quality tool that can be used for analyzing a sequence of events.

The tool maps out a sequence of events that take place sequentially or in parallel. The flow chart can be used to understand a complex process in order to find the relationships and dependencies between events.

You can also get a brief idea about the critical path of the process and the events involved in the critical path.

Flow charts can be used for any field to illustrate complex processes in a simple way. There are specific software tools developed for drawing flow charts, such as MS Visio.

You can download some of the open source flow chart tools developed by the open source community.



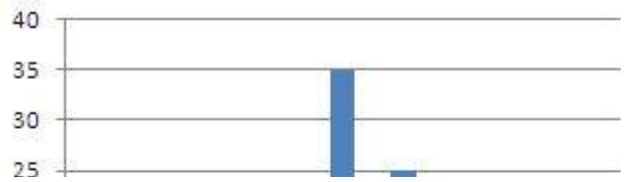
2. Histogram

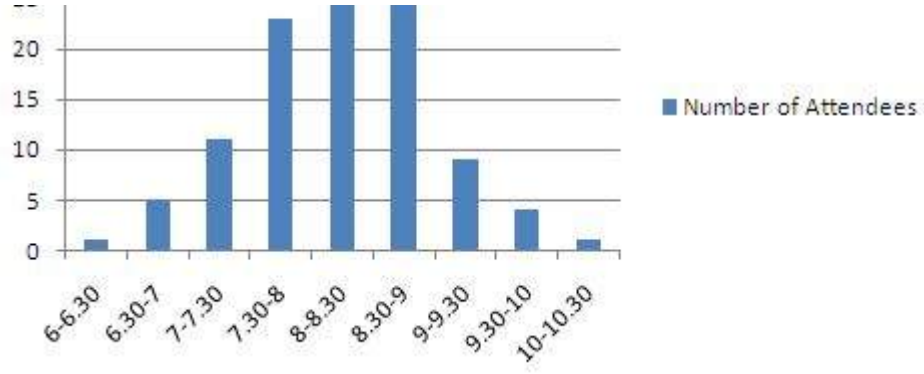
Histogram is used for illustrating the frequency and the extent in the context of two variables.

Histogram is a chart with columns. This represents the distribution by mean. If the histogram is normal, the graph takes the shape of a bell curve.

If it is not normal, it may take different shapes based on the condition of the distribution. Histogram can be used to measure something against another thing. Always, it should be two variables.

Consider the following example: The following histogram shows morning attendance of a class. The X-axis is the number of students and the Y-axis the time of the day.





3. Cause and Effect Diagram

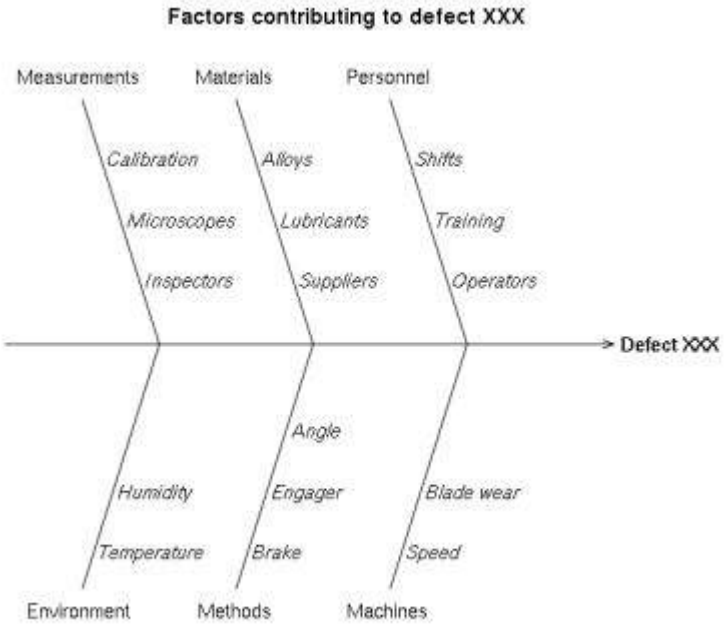
Cause and effect diagrams *IshikawaDiagram* are used for understanding organizational or business problem causes.

Organizations face problems everyday and it is required to understand the causes of these problems in order to solve them effectively. Cause and effect diagrams exercise is usually a teamwork.

A brainstorming session is required in order to come up with an effective cause and effect diagram.

All the main components of a problem area are listed and possible causes from each area is listed.

Then, most likely causes of the problems are identified to carry out further analysis.



4. Check Sheet

A check sheet can be introduced as the most basic tool for quality.

A check sheet is basically used for gathering and organizing data.

When this is done with the help of software packages such as Microsoft Excel, you can derive further analysis graphs and automate through macros available.

Therefore, it is always a good idea to use a software check sheet for information gathering and organizing needs.

One can always use a paper-based check sheet when the information gathered is only used for backup or storing purposes other than further processing.

Motor Assembly Check Sheet

Name of Data Recorder: Lester B. Rapp
Location: Rochester, New York
Data Collection Dates: 1/17 - 1/23

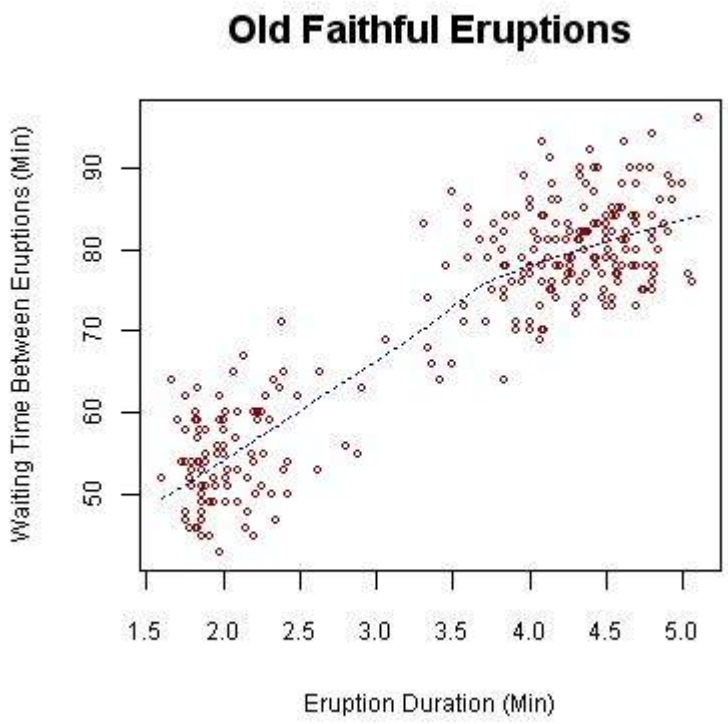
Defect Types/ Event Occurrence	Dates							TOTAL
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
Supplied parts rusted		|||||||	||||	||||	||			20
Misaligned weld			|||		||		5
Improper test procedure								0
Wrong part issued								3
Film on parts								0
Voids in casting				||||	||		6
Incorrect dimensions						||		2
Adhesive failure								0
Masking insufficient								1
Spray failure			|||||				5
TOTAL		10	13	10	5	4		

5. Scatter Diagram

When it comes to the values of two variables, scatter diagrams are the best way to present. Scatter diagrams present the relationship between two variables and illustrate the results on a Cartesian plane.

Then, further analysis, such as trend analysis can be performed on the values.

In these diagrams, one variable denotes one axis and another variable denotes the other axis.



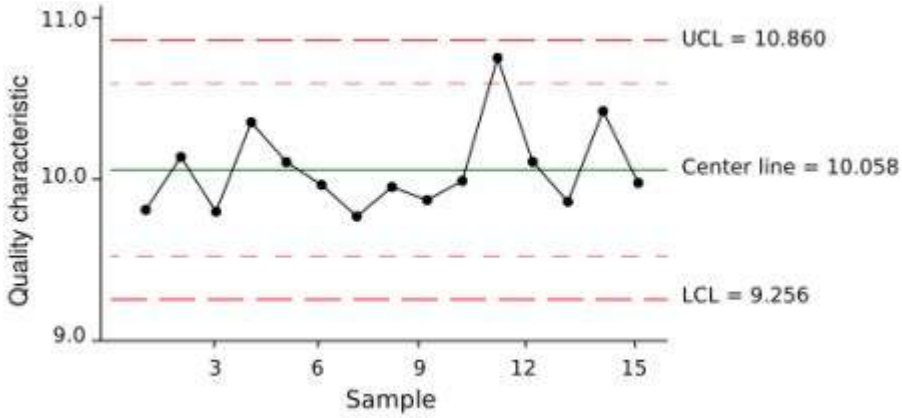
6. Control Charts

Control chart is the best tool for monitoring the performance of a process. These types of charts can be used for monitoring any processes related to function of the organization.

These charts allow you to identify the following conditions related to the process that has been monitored.

- Stability of the process
- Predictability of the process

- Identification of common cause of variation
- Special conditions where the monitoring party needs to react

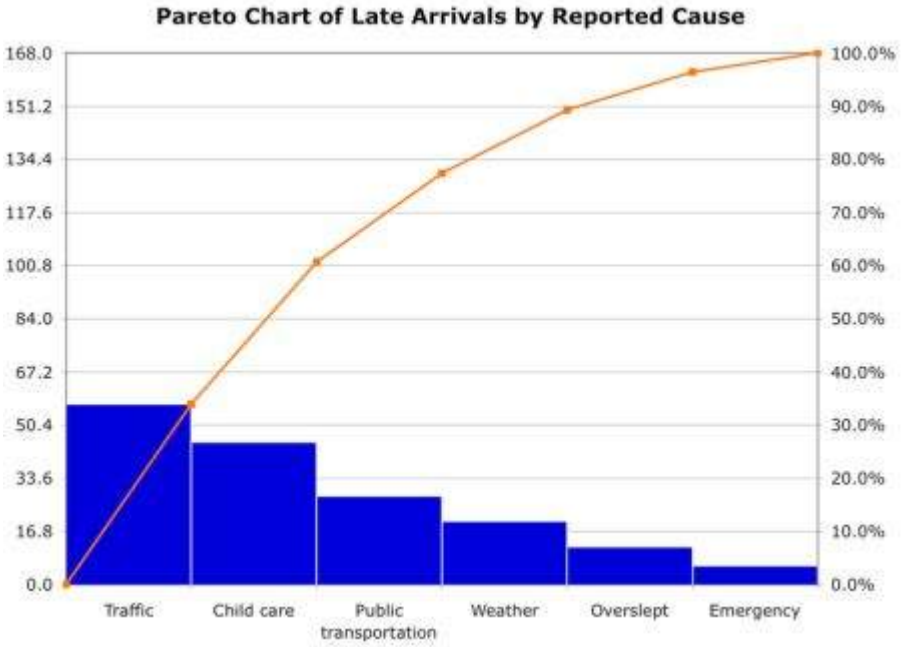


7. Pareto Charts

Pareto charts are used for identifying a set of priorities. You can chart any number of issues/variables related to a specific concern and record the number of occurrences.

This way you can figure out the parameters that have the highest impact on the specific concern.

This helps you to work on the propriety issues in order to get the condition under control.



Conclusion

Above seven basic quality tools help you to address different concerns in an organization.

Therefore, use of such tools should be a basic practice in the organization in order to enhance the efficiency.

Trainings on these tools should be included in the organizational orientation program, so all the staff members get to learn these basic tools.

BENCHMARKING PROCESS

Introduction

If a company is to be successful, it needs to evaluate its performance in a consistent manner.

In order to do so, businesses need to set standards for themselves and measure their processes

and performance against recognized industry leaders or against best practices from other industries, which operate in a similar environment.

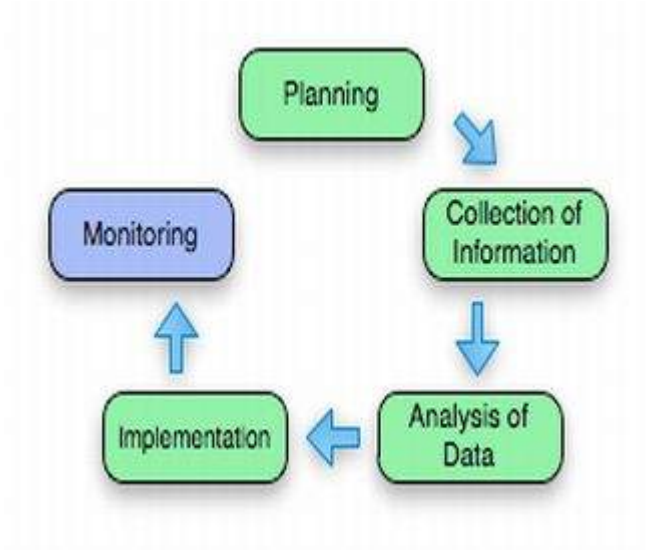
This is commonly referred to as ***benchmarking*** in management parlance.

The benchmarking process is relatively uncomplicated. Some knowledge and a practical dent is all that is needed to make such a process a success.

Therefore, for the benefit of corporate executives, students and the interested general populace, the key steps in the benchmarking process are highlighted below.

A Step-by-Step Approach to Benchmarking

Following are the steps involved in benchmarking process:



1 Planning

Prior to engaging in benchmarking, it is imperative that corporate stakeholders identify the activities that need to be benchmarked.

For instance, the processes that merit such consideration would generally be core activities that have the potential to give the business in question a competitive edge.

Such processes would generally command a high cost, volume or value. For the optimal results of benchmarking to be reaped, the inputs and outputs need to be redefined; the activities chosen should be measurable and thereby easily comparable, and thus the benchmarking metrics needs to be arrived at.

Prior to engaging in the benchmarking process, the total process flow needs to be given due consideration. For instance, improving one core competency at the detriment to another proves to be of little use.

Therefore, many choose to document such processes in detail *aprocessflowchartisdeemedtobeidealforthispurpose*, so that omissions and errors are minimized; thus enabling the company to obtain a clearer idea of its strategic goals, its primary business processes, customer expectations and critical success factors.

An honest appraisal of the company's strengths, weaknesses and problem areas would prove to be of immense use when fine-tuning such a process.

The next step in the planning process would be for the company to choose an appropriate benchmark against which their performance can be measured.

The benchmark can be a single entity or a collective group of companies, which operate at optimal efficiency.

As stated before, if such a company operates in a similar environment or if it adopts a comparable strategic approach to reach their goals, its relevance would, indeed, be greater.

Measures and practices used in such companies should be identified, so that business process alternatives can be examined.

Also, it is always prudent for a company to ascertain its objectives, prior to commencement of the benchmarking process.

The methodology adopted and the way in which output is documented should be given due consideration too. On such instances, a capable team should be found in order to carry out the benchmarking process, with a leader or leaders being duly appointed, so as to ensure the smooth, timely implementation of the project.

2 Collection of Information

Information can be broadly classified under the sub texts of primary data and secondary data.

To clarify further, here, primary data refers to collection of data directly from the benchmarked company/companies itself, while secondary data refers to information garnered from the press, publications or websites.

Exploratory research, market research, quantitative research, informal conversations, interviews and questionnaires, are still, some of the most popular methods of collecting information.

When engaging in primary research, the company that is due to undertake the benchmarking process needs to redefine its data collection methodology.

Drafting a questionnaire or a standardized interview format, carrying out primary research via the telephone, e-mail or in face-to-face interviews, making on-site observations, and documenting such data in a systematic manner is vital, if the benchmarking process is to be a success.

3 Analysis of Data

Once sufficient data is collected, the proper analysis of such information is of foremost importance.

Data analysis, data presentation *preferablyingraphicalformat*, *foreasyreference*, results projection, classifying the performance gaps in processes, and identifying the root cause that leads to the creation of such gaps (commonly referred to as *enablers*), need to be then carried out.

4 Implementation

This is the stage in the benchmarking process where it becomes mandatory to *walk the talk*. This generally means that far-reaching changes need to be made, so that the performance gap between the ideal and the actual is narrowed and eliminated wherever possible.

A formal action plan that promotes change should ideally be formulated keeping the organization's culture in mind, so that the resistance that usually accompanies change is minimized.

Ensuring that the management and staff are fully committed to the process and that sufficient resources are in place to meet facilitate the necessary improvements would be critical in making the benchmarking process, a success.

5 Monitoring

As with most projects, in order to reap the maximum benefits of the benchmarking process, a systematic evaluation should be carried out on a regular basis.

Assimilating the required information, evaluating the progress made, re-iterating the impact of the changes and making any necessary adjustments, are all part of the monitoring process.

Conclusion

As is clearly apparent, benchmarking can add value to the organization's workflow and structure by identifying areas for improvement and rectification.

It is indeed invaluable in an organization's quest for continuous improvement.

CAUSE AND EFFECT DIAGRAM

Introduction

There are a number of productivity and management tools used in business organizations. Cause and Effect Diagram, in other words, Ishikawa or Fishbone diagram, is one such management tool. Due to the popularity of this tool, majority of managers make use of this tool regardless of the scale of the organization.

Problems are meant to exist in organizations. That's why there should be a strong process and supporting tools for identifying the causes of the problems before the problems damage the organization.

Steps for Using the Tool

Following are the steps that can be followed to successfully draw a cause and effect diagram:

Step 1 - Properly identify the problem in hand

Start articulating the exact problem you are facing. Sometimes, identification of the problem may not be straightforward. In such instances, write down all the effects and observations in detail. A short brainstorming session may be able to point out t the actual problem.

When it comes to properly identifying the problem, there are four properties to consider; who are involved, what the problem is, when it occurs, and where it occurs. Write down the problem in a box, which is located at the left hand corner *refertheexamplecauseandeffectdiagram*. From the box, draw a line horizontally to the right hand side. The arrangement will now look like the head and the spine of a fish.

Step 2 - Add the major factors that contribute to the problem

In this step, the main factors of the problem are identified. For each factor, draw off a line from the fish's spine and properly label it. These factors can be various things such as people, material, machinery or external influences.

Think more and add as many as factors into the cause and effect diagram.

Brainstorming becomes quite useful in this phase, as people can look at the problem in different angles and identify different contributing factors.

The factors you added now become the bones of the fish.

Step 3 - Identify the causes

Take one factor at a time when identifying possible causes. Brainstorm and try to identify all causes that apply to each factor. Add these causes horizontally off from the fish bones and label them.

If the cause is large in size or complex in nature, you can further breakdown and add them as sub causes to the main cause. These sub causes should come off from the relevant cause lines.

Spend more time in this step; the collection of causes should be comprehensive.

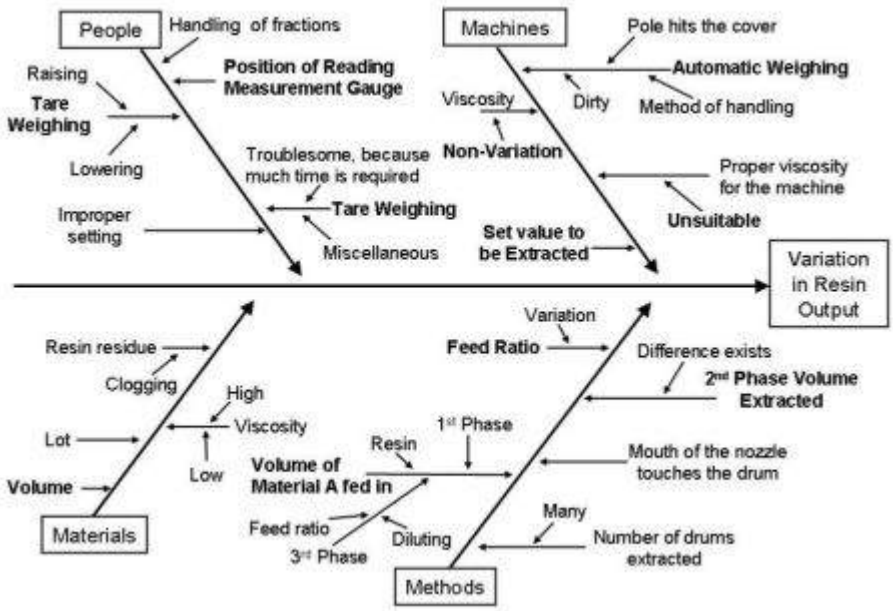
Step 4 - Diagram analysis

When this step starts, you have a diagram that indicates the problem, the contributing factors, and all possible causes for the problem.

Depending on the brainstorming ideas and nature of the problem, you can now prioritize the causes and look for the most likely cause.

This analysis may lead to further activities such as investigations, interviews and surveys. Refer the

following sample cause and effect diagram:



Use of cause and effect diagrams

When it comes to the use of cause and effect diagrams, brainstorming is a critical step. Without proper brainstorming, a fruitful cause and effect diagram cannot be derived.

Therefore, following considerations should be addressed in the process of deriving a cause and effect diagram:

- There should be a problem statement that describes the problem accurately. Everyone in the brainstorming session should agree on the problem statement.
- Need to be succinct in the process.
- For each node, think all the possible causes and add them into the tree.
- Connect each casualty line back to its root cause.
- Connect relatively empty branches to others.
- If a branch is too bulky, consider splitting it in two.

Conclusion

Cause and Effect diagrams can be used to resolve organizational problems efficiently.

There are no limitations or restrictions on applying the diagrams to different problems or domains. The level and intensity of brainstorming defines the success rate of cause and effect diagrams.

Therefore, all relevant parties should be present in the brainstorming session in order to identify all possible causes.

Once most likely causes are identified, further investigation is required to unearth further details.

CHANGE MANAGEMENT PROCESS

Introduction

Philosophically thinking, change is the only constant in the world. Same as for anything else, this is true for business organizations as well.

Every now and then, business organizations change the way they operate and the services/products they offer. There are new initiatives in organizations and the old ineffective practices are forced to leave.

In addition to that, technology is constantly changing and the business organizations need to par with that as well.

There are many approaches about how to change. Of course, we may all agree that the change is required for an organization, but can we all be in agreement of how the change should take place? Usually not! Therefore, deriving a change management process should be a collective effort and should result from intensive brainstorming and refining of the ideas.

In this tutorial, we will have a look at the change management process suggested by John Kotter. Since this process has shown results for many Fortune 500 companies, Kotter's approach should be considered with respect.

Eight-Step Change Management Process

Let's go through the steps of Kotter's change management approach.

Step 1: Urgency Creation

A change is only successful if the whole company really wants it. If you are planning to make a change, then you need to make others want it. You can create urgency around what you want to change and create hype.

This will make your idea well received when you start your initiative. Use statistics and visual presentations to convey why the change should take place and how the company and employees can be at advantage.

Step 2: Build a Team

If your convincing is strong, you will win a lot of people in favour of change. You can now build a team to carry out the change from the people, who support you. Since changing is your idea, make sure you lead the team.

Organize your team structure and assign responsibilities to the team members. Make them feel that they are important within the team.

Step 3: Create a Vision

When a change takes place, having a vision is a must. The vision makes everything clear to everyone. When you have a clear vision, your team members know why they are working on the change initiative and rest of the staff know why your team is doing the change.

If you are facing difficulties coming up with a vision, read chapter one *MissionandValues* of WINNING, by Jack Welch.

Step 4: Communication of Vision

Deriving the vision is not just enough for you to implement the change. You need to communicate your vision across the company.

This communication should take place frequently and at important forums. Get the influential people in the company to endorse your effort. Use every chance to communicate your vision; this could be a board meeting or just talking over the lunch.

Step 5: Removing Obstacles

No change takes place without obstacles. Once you communicate your vision, you will only be able to get the support of a fraction of the staff. Always, there are people, who resist the change.

Sometimes, there are processes and procedures that resist the change too! Always watch out for obstacles and remove them as soon as they appear. This will increase the morale of your team as well the rest of the staff.

Step 6: Go for Quick Wins

Quick wins are the best way to keep the momentum going. By quick wins, your team will have a great satisfaction and the company will immediately see the advantages of your change initiative.

Every now and then, produce a quick win for different stakeholders, who get affected by the change process. But always remember to keep the eye on the long-term goals as well.

Step 7: Let the Change Mature

Many change initiatives fail due to early declaration of victory. If you haven't implemented the change 100% by the time you declare the victory, people will be dissatisfied when they see the gaps.

Therefore, complete the change process 100% and let it be there for sometime. Let it have its own time to get integrated to the people's lives and organizational processes before you say it 'over.'

Step 8: Integrate the Change

Use mechanisms to integrate the change into people's daily life and corporate culture. Have a continuous monitoring mechanism in place in order to monitor whether every aspect of the change taking place in the organization. When you see noncompliance, act immediately.

Conclusion

In the constantly changing corporate world, the one who welcomes the changes stays ahead of the competition.

If you are not much comfortable with changes happening around you, reserve some of your time to read 'Who Moved My Cheese?' by Dr. Spencer Johnson.

This will tell you the whole story about why the change is required and how you can make use of the change to excel in what you do.

COMMUNICATION BLOCKERS

Introduction

If you are unable to communicate what you think and what you want, your will not be much successful in getting your work done in a corporate environment.

Therefore, it is necessary for you to get to know what the communication barriers are, so you can avoid them if you intentionally or unintentionally practice them at the moment.

Common Communication Blockers

Have a close look at the following communication blockers that can be commonly found in corporate environments:

Accusing

Accusing and blaming are the most destructive forms of communication. When accusing, the other person feels that you assume he/she is guilty, even without hearing their side of the story.

Never accuse or blame unless it is highly required to address certain exceptional issues. In a corporate environment, accusing and blaming should not take place at all.

Judging

Judging is one of the blockers that prevent the information flow in communication. As an example, if one person is suspecting that you judge him/her, he/she will not open up to you and tell you all what they want to tell you.

Instead, they will tell you what they think as 'safe' to tell you. Make sure that you do not judge people when you communicate with them. Judging makes others feel that one person is on a higher level than the rest.

Insulting

Insulting takes you nowhere in communication. Do you like to be insulted by someone else? Therefore, you should not insult another person regardless of how tempered you are or how wrong you think others are.

There are many ways of managing your temper other than insulting others. Insulting does not provide you any information you require.

Diagnosis

If you are to diagnose something said by another person, think twice before actually doing it. If you diagnose something, you should be having more expertise than the person, who originally related to the communication.

When you try to diagnose something without a proper background to do so, others understand as if you are trying to show your expertise over the other person.

This is a communication blocker and the other person may be reluctant to provide you all the information he/she has.

Sarcasms

In order to have effective communication, you need to show respect to others. If you show no respect, you get no information. This is exactly what sarcasm does.

If you become sarcastic towards a person, that person will surely hold back a lot of valuable information that is important to you. Showing your sense of humour is one thing and sarcasm is another!

Globalizing

Do not use words such as "always" or "never." These make the parties involved in the discussions uncomfortable as well as it gives the notion of negativity.

Try to avoid such globalizing words and try to focus on the issue in hand.

Threats or Orders

Understanding what other person says is the key for a successful outcome from communication. Overpowering rather than understanding the other person has many negative consequences when it comes to communication.

With threats and orders, there is only one-way communication and nothing collaborative will take place. Therefore, it is necessary for you to avoid threats or orders when communicating.

Interrupting

Interrupting is a good thing when you want to get something just said, clarified. But most of the times, people interrupt another person to express their own views and to oppose what has been said.

When such interruptions take place, the person, who talks may feel that you are no longer interested in what they are saying. Therefore, interrupt when it is really necessary and only to get things clarified.

Changing the Subject

If the other person is keen on talking about something, changing the subject by you might result in some issues in communication.

Changing subject in the middle of some discussion can be understood as your lack of interest on the subject as well as your unwillingness to pay attention. This may result in unproductive and ineffective communication outcomes.

Calling for Reassurance

Sometimes, we tend to do this. When one person is telling you something, you try to get the reassurance for what has been said from others.

This behaviour makes the first person uncomfortable and it is an indication that you do not believe or trust what the person says.

If you need a reassurance of what has been said, do it in a more private manner after the discussion or conversation is over.

Conclusion

Communication barriers are the ones you should always avoid. If you are a manager of a business organization, you should know each and every communication barrier and remove them from corporate culture.

Encourage others to avoid communication barriers by educating them. With communication barriers, neither the management nor employees will be able to achieve what they want.

COMMUNICATION CHANNELS

Introduction

In an organization, information flows forward, backwards and sideways. This information flow is referred to as communication. Communication channels refer to the way this information flows within the organization and with other organizations.

In this web known as communication, a manager becomes a link. Decisions and directions flow upwards or downwards or sideways depending on the position of the manager in the communication web.

For example, reports from lower level manager will flow upwards. A good manager has to inspire, steer and organize his employees efficiently, and for all this, the tools in his possession are spoken and written words.

For the flow of information and for a manager to handle his employees, it is important for an effectual communication channel to be in place.

The Working of a Communication Channel

Through a modem of communication, be it face-to-face conversations or an inter-department memo, information is transmitted from a manager to a subordinate or vice versa.

An important element of the communication process is the feedback mechanism between the management and employees.

In this mechanism, employees inform managers that they have understood the task at hand while managers provide employees with comments and directions on employee's work.

Importance of a Communication Channel

A breakdown in the communication channel leads to an inefficient flow of information. Employees are unaware of what the company expects of them. They are uninformed of what is going on in the company.

This will cause them to become suspicious of motives and any changes in the company. Also without effective communication, employees become department minded rather than company minded, and this affects their decision making and productivity in the workplace.

Eventually, this harms the overall organizational objectives as well. Hence, in order for an organization to be run effectively, a good manager should be able to communicate to his/her employees what is expected of them, make sure they are fully aware of company policies and any upcoming changes.

Therefore, an effective communication channel should be implemented by managers to optimize worker productivity to ensure the smooth running of the organization.

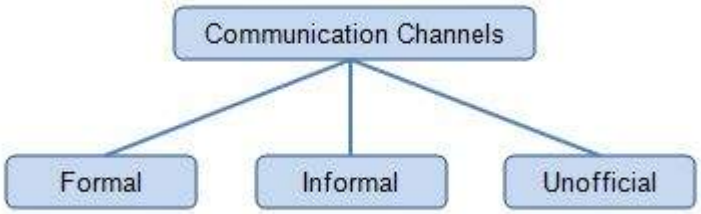
Types of Communication Channels

The number of communication channels available to a manager has increased over the last 20 odd years. Video conferencing, mobile technology, electronic bulletin boards and fax machines are some of the new possibilities.

As organizations grow in size, managers cannot rely on face-to-face communication alone to get their message across.

A challenge the managers face today is to determine what type of communication channel should they opt for in order to carryout effective communication.

In order to make a manager's task easier, the types of communication channels are grouped into three main groups: formal, informal and unofficial.



Formal Communication Channels

- A formal communication channel transmits information such as the goals, policies and procedures of an organization. Messages in this type of communication channel follow a chain of command. This means information flows from a manager to his subordinates and they in turn pass on the information to the next level of staff.
- An example of a formal communication channel is a company's newsletter, which gives employees as well as the clients a clear idea of a company's goals and vision. It also includes the transfer of information with regard to memoranda, reports, directions, and scheduled meetings in the chain of command.
- A business plan, customer satisfaction survey, annual reports, employer's manual, review meetings are all formal communication channels.

Informal Communication Channels

- Within a formal working environment, there always exists an informal communication network. The strict hierarchical web of communication cannot function efficiently on its own and hence there exists a communication channel outside of this web. While this type of communication channel may disrupt the chain of command, a good manager needs to find the fine balance between the formal and informal communication channel.
- An example of an informal communication channel is lunchtime at the organization's cafeteria/canteen. Here, in a relaxed atmosphere, discussions among employees are encouraged. Also managers walking around, adopting a hands-on approach to handling employee queries is an example of an informal communication channel.
- Quality circles, team work, different training programs are outside of the chain of command and so, fall under the category of informal communication channels.

Unofficial Communication Channels

- Good managers will recognize the fact that sometimes communication that takes place within an organization is interpersonal. While minutes of a meeting may be a topic of discussion among employees, sports, politics and TV shows also share the floor.
- The unofficial communication channel in an organization is the organization's 'grapevine.' It

is through the grapevine that rumors circulate. Also those engaging in 'grapevine' discussions often form groups, which translate into friendships outside of the organization. While the grapevine may have positive implications, more often than not information circulating in the grapevine is exaggerated and may cause unnecessary alarm to employees. A good manager should be privy to information circulating in this unofficial communication channel and should take positive measures to prevent the flow of false information.

- An example of an unofficial communication channel is social gatherings among employees.

Conclusion

In any organization, three types of communication channels exist: formal, informal and unofficial.

While the ideal communication web is a formal structure in which informal communication can take place, unofficial communication channels also exist in an organization.

Through these various channels, it is important for a manager to get his/her ideas across and then listen, absorb, glean and further communicate to employees.

COMMUNICATION METHODS

Introduction

We all know the importance of communication in our daily lives. Nothing can take place without some method of communication being used to express ourselves for whatever purpose.

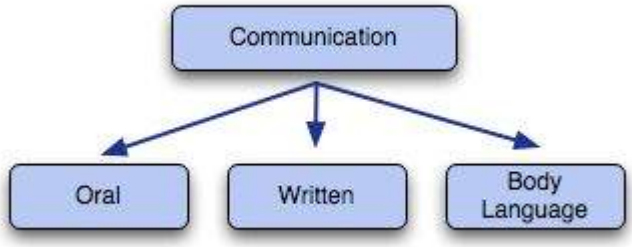
Communication is even more valuable in a business environment as there are several parties involved. Various stakeholders, whether they are customers, employees or the media, are always sending important information to each other at all times.

We are therefore constantly using some form of communication or another to send a message across. Without these different methods of communication available today, it would take eons for us to carry out business as efficiently as it is done today and with the same speed.

Let's try and understand what these methods of communication are.

Types of Communication

Numerous new instruments have emerged over the years to help people communicate effectively.



Oral Communication

Oral communication could be said to be the most used form of communication. Whether it is to present some important data to your colleagues or lead a boardroom meeting, these skills are vital.

We are constantly using words verbally to inform our subordinates of a decision, provide information, and so on. This is done either by phone or face-to-face.

The person on the receiving end would also need to exercise much caution to ensure that he/she clearly understands what is being said.

This shows therefore that you would need to cultivate both your listening and speaking skills, as you would have to carry out both roles in the workplace, with different people.

Written Communication

Writing is used when you have to provide detailed information such as figures and facts, even while giving a presentation.

It is also generally used to send documents and other important material to stakeholders which could then be stored for later use as it can be referred to easily as it is recorded. Other important documents such as contracts, memos and minutes of meetings are also in written form for this purpose.

It can be seen in recent years, however, that verbal communication has been replaced to a great extent by a faster form of written communication and that is email.

You could also use video conferencing and multiple way phone calls with several individuals simultaneously. Apart from a few glitches that could occur, these methods of communication have helped organizations come a long way.

Body Language

Although the most common methods of communication are carried out orally or in writing, when it comes to management techniques, the power of non-verbal communication must never be underestimated.

Your smile, your gestures and several other body movements send out a message to the people around you. You need to be mindful of this while dealing with your employees and customers.

Always remember to maintain eye contact. This would show that you are serious and confident about what is being said.

Why Do We Need Different Communication Methods?

You may ask why it is important that we use different methods of communication in one organization.

The answer is very simple. The reason for this is the pivotal role that communication plays in the effective functioning of a business.

Imagine an organization today without e-mail facilities. How would a customer then be able to send an important proposal quickly and directly to the employer in-charge? Similarly, an organization may have to stall their work if certain managers are not in the country and are thereby unable to give a presentation to the board.

But, of course, this can be done today with the help of video conferencing.

Therefore, it is crucial that different methods of communication are employed.

Choosing the Right Method

It is important that the most cost-effective methods of communication are chosen for any organization. Simply choosing a method of communication due to it being a famous instrument is not going to help.

You would need to understand the needs of your organization in particular. There are certain questions that you would need to ask:

- What is our target audience?
- How much are we willing to spend on such an instrument?
- Will it increase employee productivity in the long run?
- What kind of information do we send out most often?

You may have more questions to ask based on the type of work you carry out and the message that you need to send across. Remember that there is no 'right' method of communication. You would need different methods for different purposes and tasks.

Conclusion

In conclusion, it is important to always remember the importance of communication in an organization.

The methods of communication you choose could in a sense make or break the management structure of your organization and could also affect your relationship with customers, if not chosen carefully.

It is vital therefore that you spend some time choosing the right methods to aid you in your management tasks.

COMMUNICATION MODELS

Introduction

For decades, man has known the importance of communication. Today, with various means by which one can communicate, it has become much easier to communicate a message to the other party, than it was several decades ago.

Every organization, no matter what their expertise and where they are situated, and what scale they operate, realize and value the importance of good communication.

This communication for organizations takes place both within the organization as well as with other outside stakeholders outside.

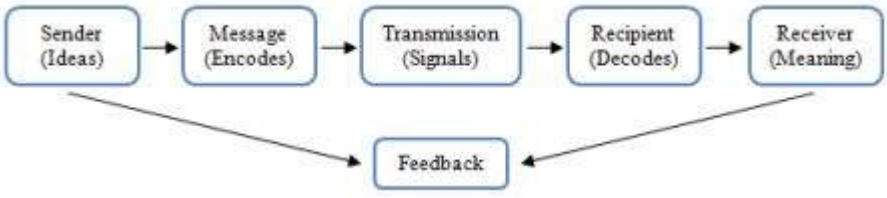
Therefore, it is vital for any business organization to understand the communication models out there, so they can use them for enhancing effective communication in the organization.

Understanding Communication

Communication today is mainly of three types

- Written communication, in the form of emails, letters, reports, memos and various other documents.
- Oral communication. This is either face-to-face or over the phone/video conferencing, etc.
- A third type of communication, also commonly used but often underestimated is non-verbal communication, which is by using gestures or even simply body movements that are made. These too could send various signals to the other party and is an equally important method of communication.

The basic flow of communication can be seen in the diagram below. In this flow, the sender sends a message to the receiver and then they share the feedback on the communication process.



The methods of communication too need to be carefully considered before you decide on which method to uses for your purposes. Not all communication methods work for all transactions.

Once the methods of communication have been understood, the next step would be to consider various communication models. Due to the importance of communication, different types of models have been introduced by experts over the years.

The models help the business organizations and other institutions to understand how communication works, how messages are transmitted, how it is received by the other party, and how the message is eventually interpreted and understood.

Different Communication Models

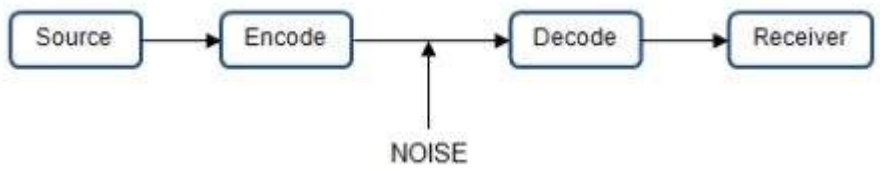
Let's have a look at some of the famous and frequently used communication models used nowadays.

Shannon's Model

One of the earliest models of communication that introduced was Claude Shannon's model. This was introduced in 1948.

This laid the foundation for the different communication models that we have today, and has greatly helped and enhanced the communication process in various fields. This model can be considered as the granddaddy of many later communication models.

Following is a simple illustration of this model.



The diagram above clearly illustrates how communication takes place, and also helps one to determine what could go wrong.

In Shannon's model, the information source typically refers to a person, who then sends a message with the use of a transmitter.

This transmitter could be any instrument today, from phones to computers and other devices. The signals that are sent and received can be vary depending on the method of communication.

The box at the bottom called NOISE refers to any signals that may interfere with the message being carried. This again would depend on the method of communication.

The receiver is the instrument or the person on the other side that receives the. This model is the simplest models to understand the workings of the communication process.

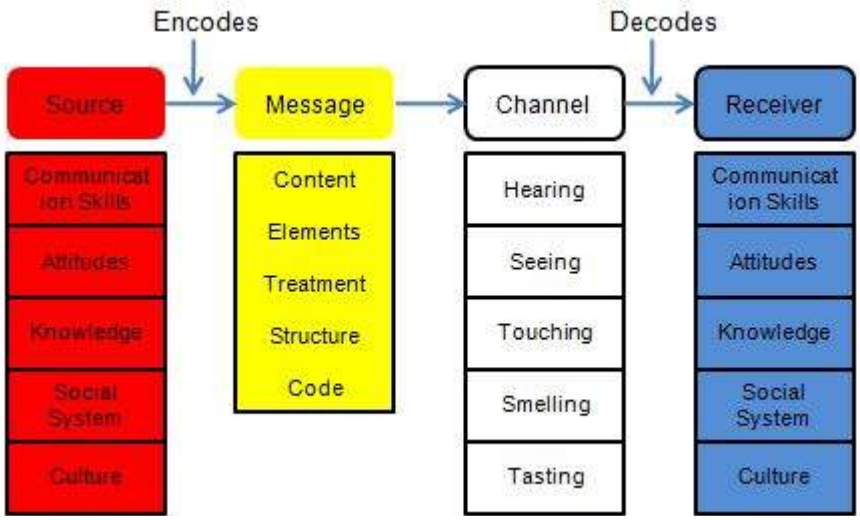
Berlo's Model

Another famous communication model is Berlo's model. In this model, he stresses on the relationship between the person sending the message and the receiver.

According to this model, for the message to be properly encoded and decoded, the communication skills of both the source and the receiver should be at best. The communication will be at its best only if the two points are skilled.

Berlo's model has four main components and each component has its own sub components describing the assisting factors for each.

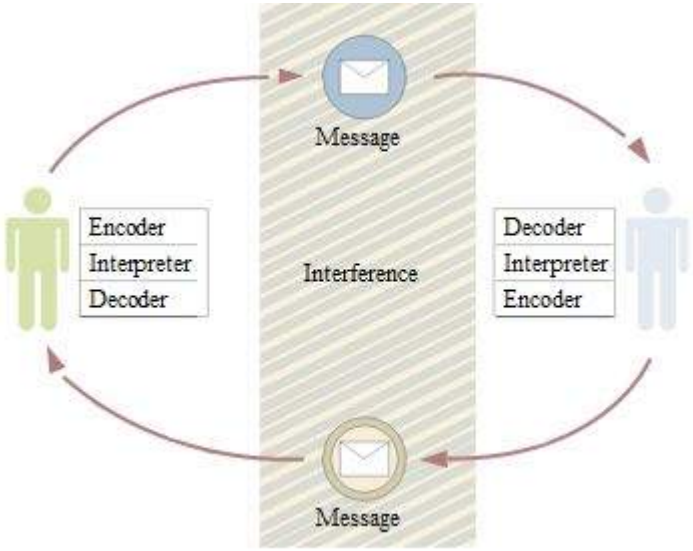
Following is the illustration of this model.



Schramm's Model

Schramm on the other hand, emphasized in 1954 that both the sender and the receiver take turns playing the role of the encoder and the decoder when it comes to communication.

The following diagram illustrates the model proposed by Schramm.



These models have been followed by various other models such as the 'Helical' model, Aristotle's models and several other models.

You should always keep in mind that each of these models has both their advantages and disadvantages. While some communication models try to break down the whole process in order to make it easier to understand, they are not always as simple as they seem.

There are several complexities involved in communications models. This is one thing that needs to be carefully understood in the process of understanding how these models work.

Conclusion

You need to keep in mind that these complexities that accompany the communication models may only make understanding the communication much harder.

It is best that both parties, the source *sender* and the receiver, are clear about what they would like to discuss. This is also known as the context of the message.

This would make it much easier to decode what the other party is saying without too much trouble. The process of communication, if kept simple and to the point, should not usually have too many issues, and the message will be easily understood by both parties.

COMMUNICATIONS MANAGEMENT

Introduction

Often you would come across organizations that stress the importance of good communication management. It's empirical for an organization to have a proper communication management.

Once this is achieved, the organization is one step closer to achieving its overall business objectives. Communication management refers to a systematic plan, which implements and monitors the channels and content of communication.

To become a good manager, one must have a contingency approach at hand when it comes to communicating with employees.

An effective communication management is considered to be a lifeline for many projects that an organization undertakes as well as any department of the organization.

The Five W's of Communication Management

The five W's in communication are crucial and need to be addressed for a project or organizational function to be successful by means of an effective communication management.

Following are the five W's of communications management:

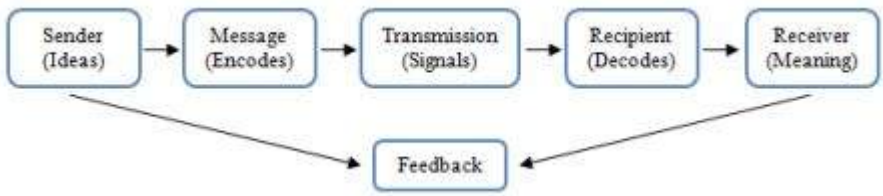
- What information is essential for the project?
- Who requires information and what type of information is needed?
- What is the duration of time required for the information?
- What type or format of information is required?
- Who are the person/s who will be responsible for transmitting the collated information?

The five W's in communication management are only the guidelines. Therefore, you do need to take other considerations into account, such as cost and access to information.

The Communication Process

The main objective of communication management is to ensure smooth flow of information from either between two people or a group.

Let us examine the communication process with the use of a diagram.



The communication process consists of three main divisions; sender transmits a message via a channel to the receiver. As per the above diagram, the sender first develops an idea, which then can be processed as a message.

This message is transmitted to the receiver. The receiver has to interpret the message to understand its meaning.

When it comes to the interpretation, the context of the message should be used for deriving the meaning. Furthermore, for this communication process model, you will also utilize encoding and decoding.

Encoding refers to developing a message and decoding refers to interpreting or understanding the message. You will also notice the feedback factor, which the sender and receiver both involve.

Feedback is crucial for any communication process to be successful. Feedback allows immediate managers or supervisors to analyze how well subordinates understand the information provided and to know the performance of work.

Methods of Communication

Understanding the communication process alone will not guarantee success for managers or an organization. Managers need to be aware of the methods used in the communication process.

The standard methods of communication that are widely used by managers and organizations across the world are either written or oral methods.

Apart from these two mechanisms, non-verbal communication is another prominent method used to assess communication within the organization.

Non-verbal communication refers to the use of body language as a method of communication. This method will include gestures, actions, physical appearance as well as facial appearance and attitude.

Although most of these methods are still in use for a larger part of the organization, the usage of e-mail and other electronic mediums as a method of communication has lessened the need for face-to-face communication.

This sometimes leads to situations where both parties involved do not trust or feel comfortable with each other and also the messages can be easily misinterpreted.

Oral Communication Skills

A large proportion of oral communication is directly involved in communications management. For example, if a manager does not converse or make it clear to a sales team, this may lead to differences in objectives and achievements.

There are two aspects of oral communication, active listening and constructive feedback.

Active Listening

This is where the person, who receives the message pays attention to the information, interprets and remembers.

As you would be aware, listening helps you to pay attention and following are some points, which illustrate active listening.

- Making eye contact with the relevant party
- Making sure to clarify questions if it's not clear
- Avoiding using gestures, which are distracting or uncomfortable

Constructive Feedback

This is where managers fail most of the time. Feedback needs to be constructive and then it will help the employees to shape up their performance instead of mere criticism.

Conclusion

Communication management is vital for any organization irrespective of its size. It contributes to achieving the company's overall objectives as well as creates a positive and friendly environment.

An effective communication process within the organization will lead to an increase in profits, high employee satisfaction and brand recognition.

CONFLICT MANAGEMENT

Introduction

Organizational conflict occurs when two or more parties, who have different objectives, values or attitudes compete for the same resources. Conflicts can arise due to disagreements between individuals or departments due to their dissimilar focus.

Contrary to popular belief, not all organizational conflicts are detrimental to the effective functioning of the business or project at hand.

Popular management theorists have recognized the fact that groups tend to *storm* before performing, and in one sense, this can be advantageous, as it brings problems out into the open, addresses the need to resolve such issues satisfactorily, motivates staff to seek acceptable solutions and each department or person embroiled in the conflict learns to respect and even benefit from the inherent differences of each other.

However, some conflicts spin out of control. This lower employee morale results in unacceptable behavioral patterns, reduces productivity and causes an escalation in differences that makes bridges harder to build.

Identifying actions that aggravate conflict, others that resolve differences and the different method of coping with conflict are all part of conflict management which are discussed in detail

below.

Managerial Actions that Aggravate Conflicts

Ill-defined expectations, non-consultative changes and feelings of helplessness in the decision making process tend to aggravate conflict. Poor communication, an authoritative style of leadership and impromptu planning are at the very heart of these problems.

Ambiguous objectives, inadequate allocation of resources, be it time, money or personnel, and badly defined process structures heighten such issues even further. Egotistic behavior, battle between *Alpha dogs* for supremacy and poor management techniques also play a pivotal role in aggravating conflicts.

A lack of understanding, an excuse-ridden culture and avoidance of accountability too increase the detrimental effects of conflicts.

Managerial Actions that Minimize Conflicts

Formulating well-defined job descriptions in a consultative manner, ensuring that any overlaps are minimized and carrying out periodical reviews to ascertain that such documentation is accurate, give the employees a sense of control over their own destiny.

This participative approach goes a long way in minimizing conflicts and helps foster better work ethics.

Formulating cross-departmental teams to solve specific problems, conducting outbound training, which fosters team spirit, holding regular meeting where feedback on performance is given and where the challenges faced are addressed and the solutions are discussed are some of the other relationship building techniques used by progressive organizations.

Different Methods of Handling Conflicts

The four most popular methods of handling conflict can be summarized as *fight, flight, fake or fold*.

To elaborate further, fighting is where one party tends to dominate another by way of repetitive arguments, labeling and name-calling.

Flight is where people run away from problems instead of confronting them and turns to avoidance as a means of handling conflict. Faking, as its name implies, means agreeing to the solution presented, although in reality, the opposite holds true.

Folding is where an individual is made to agree to a solution by means of browbeating. However, none of the aforementioned method would yield satisfactory results in the long term.

Even today, compromise and collaboration go a long way in resolving conflicts in an optimal manner, as both are win-win situations for the most part, after which, interested parties can work together to reach a common goal.

Effective dialogue paves the way for conflict resolution. If the disagreements cannot be resolved by the two parties themselves, then a third party arbitrator or counselor might need to be consulted for best results.

Skills Required for Conflict Resolution

Communication skills, negotiation skills and the ability to see the whole picture are necessary skills in conflict management. Listening skills and the ability to find solutions that do not compromise any party's interest are also worth developing when handling conflict management.

Steps in Conflict Management

- Identify the problem.
- Identify the limiting resource or constraint that is generally at the root cause of the conflict.
- Engage in participatory dialogue and find a range of solutions that will be acceptable to all the parties concerned.

- See which solutions clash with the organizational objectives and are not in keeping with the company's culture.
- Eliminate those that do not promote mutual understanding or acceptance.
- Choose the best solution that satisfy most people most of the time and implement this.

Conclusion

Conflicts are inevitable in one's personal life in organizations or even between nations.

It does have some noteworthy advantages if handled correctly as it brings problems out into the open and compels interested parties to find solutions that are acceptable to all. However, conflicts that escalate out of control are detrimental to everybody in the equation, so conflict management becomes a necessity.

Some basic skills, some knowledge, and having the best interest of the organization at heart, together with respect for its people, will go a long way in handling conflict admirably.

CRISIS MANAGEMENT

What is Crisis Management?

In any organization or business, it is always essential that you are prepared for any problems that may arise when it is least expected.

It is in the way that you deal with these issues that the success of your business will be based on. It is a well known fact that the biggest blow to an organization comes from the major unpredictable disasters that occur often leaving everyone, from the management to the public, involved in a state of confusion.

No organization however big or famous is immune from various crises. This may include situations such as your computer systems failing or even worse, infrastructure being completely destroyed.

Crisis management has entered the field of management only very recently but has since contributed a great deal to the prevention of major management disasters.

Understanding a Crisis

What crisis management typically requires is that you carry out forecasting of certain crises that you think could occur in the near future, putting your organization into jeopardy.

You then also come up with a solution as to how you would go about dealing with such a crisis. This would also require you to have a clear plan of all steps that would need to be taken should such a situation arise.

However, it may not always be the case that the organization has time to prepare for such a crisis. In such a situation, the management team would need to work on mitigating the amount of loss caused and recovering from the crisis at hand.

Types of Crises

It is important that you have a good understanding of the different types of crises that could take place at the very outset.

This is vital as all crises cannot be handled in the same manner and would require different approaches and various techniques to be applied. Although types of crises can be categorized into several kinds, the most common categories are as follows:

- **Financial crises** - This would be a huge problem for any organization, but is fairly predictable to quite an extent when compared with other types of crises. Such a crisis would basically involve the organization heading in the direction of bankruptcy.
- **Natural disasters** - This type of crisis is highly unpredictable and could come by at any time. Several examples of such situations could be given today, from example, earthquakes in countries such as China a few years ago and Haiti and other disasters such as tsunamis

and hurricanes, you should always be ready to face such a situation.

- **Technological crises** - This is where a system collapses due to failure in the functioning of different equipment and machinery used. As mentioned previously, a computer system failure is one example of such a crisis. These crises could occur either because of human error or a fault in the system used which has multiple consequences. This may also include chemical spills and oil leaks. One famous case is that of the Chernobyl nuclear power plant in 1986 which caused much damage.
- **Political & Social** - With the current political climate the world over, you may also want to take into consideration any threats to security and any form of terrorist activity.

No organization is free from internal politics and disagreement between the various levels of the workforce.

It is therefore essential that you always keep in mind that high-ranking workers could always resign in the middle of an important project or the workers may plan a strike or protest to express their disgruntlement with the way certain aspects of the organization are run.

Knowing how to manage employee disgruntlement is therefore key to preventing any future fights from erupting, impeding the progress of work being carried out by the organization.

Planning for an Impending Crisis

Without a clear plan as to how to deal with the crises that could occur at the very outset, you would only drag the organization into greater problems.

It is very important that someone plays the role of a leader and chooses a dynamic team in order to carry out all aspects of planning.

It is this management team that would have to not only ascertain what types of crises may occur, but then carry on to study various strategies that could be applied to minimize or even prevent altogether any damage that could be caused.

The next step would then be to try out these strategies and see if it would work.

At times such as these, your organization would benefit greatly from other organizations that would be able to provide you with invaluable resources to help you mitigate the crises to the greatest extent possible.

Dealing with Crises

It is essential to keep in mind that when a crisis occurs you would need to have a response team ready to deal with the media and the various stakeholders.

All these parties would need information on the given situation and what is being done to deal with it. This also requires you to have a clear crisis communication plan with the target audience in mind.

Remember that each group needs to be handled in a different manner; customers may not require the same information as the employees of the organization, and so on.

Conclusion

The only way to successfully control a crisis from going out of your hands is to always have a good plan and a good team ready to deal with various situations that may crop up.

With these strategies in place, you would always be able to reduce the damage caused to the organization to a great extent.

CRITICAL CHAIN SCHEDULING *CCS*

Introduction

When it comes to a project, it has a lower limit of possible lead time. This basically determines the cost associated with the project.

The critical chain of a project is the dependent tasks that define the lower limit of possible lead time. Therefore, it is safe to assume that the critical chain is made of sequenced dependent tasks. In critical chain scheduling *CCS*, these dependent tasks are scheduled in the most effective and beneficial way.

When it comes to critical chain scheduling, dependencies are used to determine the critical chain. In this case, two types of dependencies are used; hands-off dependencies and resource dependencies.

Hands-off Dependencies

This simply means that output of one task is the input for another. Therefore, the latter task cannot be started until the first task is completed.

Resource Dependencies

In this case, one task is utilizing a resource, so the other task cannot be started until the first task is completed and the resource is freed.

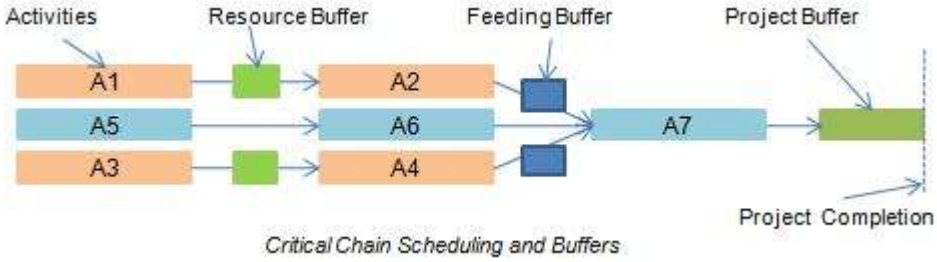
In simple, using traditional project management terminology, the critical chain can be explained as the "resource constrained critical path".

CCS and Project Management

Critical chain scheduling appreciates the "impact of variation" of a project. Usually, in project management, the impact of variation is found using statistical models such as PERT or Mote Carlo analysis. Critical chain scheduling does complement the impact of variance with a concept called the "buffer".

We will discuss more about the buffer later. The buffer basically protects the critical chain from variations in other non-critical chains making sure critical chain the indeed critical.

What is a Buffer?



Critical Chain Scheduling and Buffers

Buffer is one of the most interesting concepts in critical chain scheduling. The buffers are constructed and applied to a project in order to make sure the success of the project. The buffer protects the due delivery dates from variations to the critical chain.

With a "feeding buffer" of a proper size, the dependent tasks in the critical chain that is dependent on the output of the non-critical chain tasks have a great opportunity to start the task as soon as its predecessor dependent task in the critical chain is finished. Therefore, with the feeding buffer, the dependent tasks in the critical chain do not have to wait for non-critical chain tasks to complete.

This makes sure that the critical chain moves faster towards the project completion.

When there are multiple projects running in an organization, critical chain scheduling employs something called "capacity buffers." These buffers are used to isolate key resource performance variances in one project impacting another project.

Resource buffers are the other type of buffer employed for projects in order to manage the impact by the resources to the project progress.

Critical Chain Vs Critical Path

Usually, the critical path goes from start of the project to the end of the project. Instead, the critical chain ends at the start of the buffer assigned to the project. This buffer is called "project buffer." This is the fundamental difference between the critical path and the critical chain. When it comes to critical path, activity sequencing is performed. But with critical chain, critical chain scheduling is performed.

When it comes to the project schedule, the critical path is more subjective towards the milestones and deadlines. In critical path, not much of emphasis is given to resource utilization. Therefore, many experts believe that the critical path is what you get before you level the resources of the project. One other reason for this is, in critical path, hands-off dependencies are given the precedence.

When it comes to critical chain, it is more defined as a resource-levelled set of project tasks.

Software for Critical Chain Scheduling

Same as for critical path methodology, there is software for critical chain scheduling. This software can be categorized into "standalone" and "client-server" categories. This software supports multi-project environments by default. Therefore, this software is useful when it comes to managing a large project portfolio of a large organization.

Conclusion

Critical chain scheduling is a methodology focused on resource-levelling. Although dependent tasks mostly define the project timelines, the resource utilization plays a key role. A methodology such as critical path may be highly successful in environments, where there is no resource shortage. But in reality, this is not the case.

Projects run with limited resources and resource-levelling is a critical factor when it comes to the practicality. Therefore, critical chain scheduling gives a better answer for resource intensive projects to manage their deliveries.

CRITICAL PATH METHOD

Introduction

If you have been into project management, I'm sure you have already heard the term 'critical path method.'

If you are new to the subject, it is best to start with understanding the 'critical path' and then move on to the 'critical path method.'

Critical path is the sequential activities from start to the end of a project. Although many projects have only one critical path, some projects may have more than one critical paths depending on the flow logic used in the project.

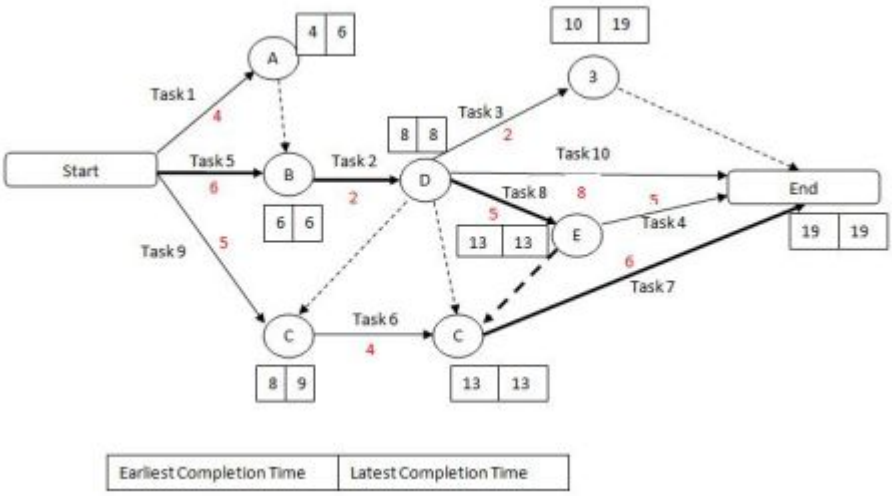
If there is a delay in any of the activities under the critical path, there will be a delay of the project deliverables.

Most of the times, if such delay is occurred, project acceleration or re-sequencing is done in order to achieve the deadlines.

Critical path method is based on mathematical calculations and it is used for scheduling project activities. This method was first introduced in 1950s as a joint venture between Remington Rand Corporation and DuPont Corporation.

The initial critical path method was used for managing plant maintenance projects. Although the original method was developed for construction work, this method can be used for any project where there are interdependent activities.

In the critical path method, the critical activities of a program or a project are identified. These are the activities that have a direct impact on the completion date of the project.



Key Steps in Critical Path Method

Let's have a look at how critical path method is used in practice. The process of using critical path method in project planning phase has six steps.

Step 1: Activity specification

You can use the Work Breakdown Structure *WBS* to identify the activities involved in the project. This is the main input for the critical path method.

In activity specification, only the higher-level activities are selected for critical path method.

When detailed activities are used, the critical path method may become too complex to manage and maintain.

Step 2: Activity sequence establishment

In this step, the correct activity sequence is established. For that, you need to ask three questions for each task of your list.

- Which tasks should take place before this task happens.
- Which tasks should be completed at the same time as this task.
- Which tasks should happen immediately after this task.

Step 3: Network diagram

Once the activity sequence is correctly identified, the network diagram can be drawn *refertothesamplediagramabove*.

Although the early diagrams were drawn on paper, there are a number of computer softwares, such as Primavera, for this purpose nowadays.

Step 4: Estimates for each activity

This could be a direct input from the WBS based estimation sheet. Most of the companies use 3-point estimation method or COCOMO based *functionpointsbased* estimation methods for tasks estimation.

You can use such estimation information for this step of the process.

Step 5: Identification of the critical path

For this, you need to determine four parameters of each activity of the network.

- Earliest start time ES - The earliest time an activity can start once the previous dependent activities are over.
- Earliest finish time EF - ES + activity duration.
- Latest finish time LF - The latest time an activity can finish without delaying the project.
- Latest start time LS - LF - activity duration.

The float time for an activity is the time between the earliest ES and the latest LS start time or between the earliest EF and latest LF finish times.

During the float time, an activity can be delayed without delaying the project finish date.

The critical path is the longest path of the network diagram. The activities in the critical path have an effect on the deadline of the project. If an activity of this path is delayed, the project will be delayed.

In case if the project management needs to accelerate the project, the times for critical path activities should be reduced.

Step 6: Critical path diagram to show project progresses

Critical path diagram is a live artefact. Therefore, this diagram should be updated with actual values once the task is completed.

This gives more realistic figure for the deadline and the project management can know whether they are on track regarding the deliverables.

Advantages of Critical Path Method

Following are advantages of critical path methods:

- Offers a visual representation of the project activities.
- Presents the time to complete the tasks and the overall project.
- Tracking of critical activities.

Conclusion

Critical path identification is required for any project-planning phase. This gives the project management the correct completion date of the overall project and the flexibility to float activities.

A critical path diagram should be constantly updated with actual information when the project progresses in order to refine the activity length/project duration predictions.

DECISION MAKING PROCESS

Introduction

Decision making is a daily activity for any human being. There is no exception about that. When it comes to business organizations, decision making is a habit and a process as well.

Effective and successful decisions make profit to the company and unsuccessful ones make losses. Therefore, corporate decision making process is the most critical process in any organization.

In the decision making process, we choose one course of action from a few possible alternatives. In the process of decision making, we may use many tools, techniques and perceptions.

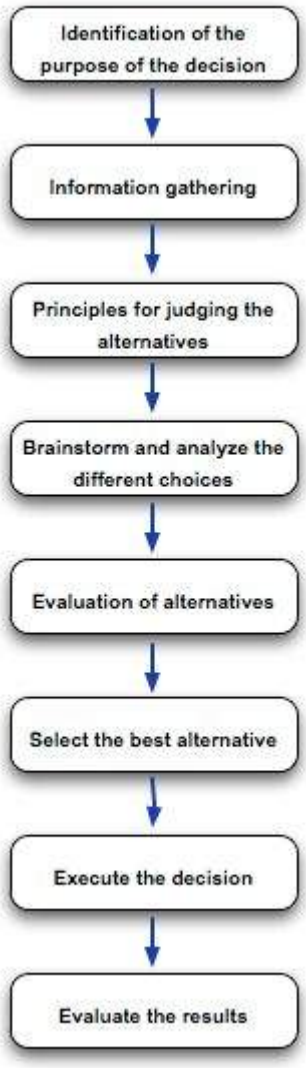
In addition, we may make our own private decisions or may prefer a collective decision.

Usually, decision making is hard. Majority of corporate decisions involve some level of dissatisfaction or conflict with another party.

Let's have a look at the decision making process in detail.

Steps of Decision Making Process

Following are the important steps of the decision making process. Each step may be supported by different tools and techniques.



Step 1: Identification of the purpose of the decision

In this step, the problem is thoroughly analysed. There are a couple of questions one should ask when it comes to identifying the purpose of the decision.

- What exactly is the problem?
- Why the problem should be solved?
- Who are the affected parties of the problem?
- Does the problem have a deadline or a specific time-line?

Step 2: Information gathering

A problem of an organization will have many stakeholders. In addition, there can be dozens of factors involved and affected by the problem.

In the process of solving the problem, you will have to gather as much as information related to the factors and stakeholders involved in the problem. For the process of information gathering, tools such as 'Check Sheets' can be effectively used.

Step 3: Principles for judging the alternatives

In this step, the baseline criteria for judging the alternatives should be set up. When it comes to defining the criteria, organizational goals as well as the corporate culture should be taken into consideration.

As an example, profit is one of the main concerns in every decision making process. Companies usually do not make decisions that reduce profits, unless it is an exceptional case. Likewise, baseline principles should be identified related to the problem in hand.

Step 4: Brainstorm and analyse the different choices

For this step, brainstorming to list down all the ideas is the best option. Before the idea generation step, it is vital to understand the causes of the problem and prioritization of causes.

For this, you can make use of Cause-and-Effect diagrams and Pareto Chart tool. Cause-and-Effect diagram helps you to identify all possible causes of the problem and Pareto chart helps you to prioritize and identify the causes with highest effect.

Then, you can move on generating all possible solutions *alternatives* for the problem in hand.

Step 5: Evaluation of alternatives

Use your judgement principles and decision-making criteria to evaluate each alternative. In this step, experience and effectiveness of the judgement principles come into play. You need to compare each alternative for their positives and negatives.

Step 6: Select the best alternative

Once you go through from Step 1 to Step 5, this step is easy. In addition, the selection of the best alternative is an informed decision since you have already followed a methodology to derive and select the best alternative.

Step 7: Execute the decision

Convert your decision into a plan or a sequence of activities. Execute your plan by yourself or with the help of subordinates.

Step 8: Evaluate the results

Evaluate the outcome of your decision. See whether there is anything you should learn and then correct in future decision making. This is one of the best practices that will improve your decision-making skills.

Conclusion

When it comes to making decisions, one should always weigh the positive and negative business consequences and should favour the positive outcomes.

This avoids the possible losses to the organization and keeps the company running with a sustained growth. Sometimes, avoiding decision making seems easier; especially, when you get into a lot of confrontation after making the tough decision.

But, making the decisions and accepting its consequences is the only way to stay in control of your

corporate life and time.

DESIGN OF EXPERIMENTS

Introduction

Design of Experiments *DOEs* refers to a structured, planned method, which is used to find the relationship between different factors *let'ssay, Xvariables* that affect a project and the different outcomes of a project *let'ssay, Yvariables*.

The method was coined by Sir Ronald A. Fisher in the 1920s and 1930s.

Ten to twenty experiments are designed where the applicable factors varied methodically. The results of the experiments are then analyzed to classify optimal conditions to find the factors that have the most influence on the results as well as those that do not and to identify interfaces and synergies among the factors.

DOEs are mainly used in the research and development department of an organization where majority of resources goes towards optimization problems.

In order to minimize optimization problems, it is important to keep costs low by conducting few experiments. Design of Experiments is useful in this case, as it only necessitates a small number of experiments, thereby helping to reduce costs.

Fundamental Concepts of DoE

In order to use Design of Experiments successfully, it is important to adhere to eight fundamental concepts.

Once the following eight steps are sequentially followed, you will be able to receive a successful outcome from Design of Experiments.

Step 1

Set Good Objectives: Before one begins to design an experiment, it is important to set out its objective. With a defined objective, it is easy to screen out factors not relevant to the experiment. This way one optimizes the key critical factors.

In the initial stages of project development, it is recommended to use a design of experiment, choice of a fractional two-level factorial. This design of experiments screens a large number of factors in minimal runs.

However, when one sets a set of good objectives, many irrelevant factors are eliminated. With well-defined objectives, managers can use a response surface design of experiment which explores few factors, albeit at many levels.

Also drawing up good objectives at the beginning helps build a solid understanding of the project as well as create realistic expectations of it's outcome.

Step 2

Measure Responses Quantitatively: Many Designs of Experiments end in failure because their responses cannot be measured quantitatively.

For example, product inspectors use a qualitative method of determining if a product passes quality assurance or not. This is not efficient in designs of experiments as a pass/fail is not accurate enough.

Step 3

Replicate to Dampen Uncontrollable Variation: Replicating a given set of conditions many times gives more opportunities for one to precisely estimate responses.

Replicating also gives one the opportunity to detect significant effects such as signals amid the

natural process uncontrollable variations, like noise.

For some projects, variations such as noise drown out the signal, so it is useful to find the signal to noise ratio before doing a design of experiment.

Step 4

Randomize the Run Order: In order to evade uncontrollable influences such as changes in raw material and tool wear, it is necessary to run experiments in a randomized order.

These variable influences can have a significant effect on the selected variable. If an experiment is not run in a random order, the design of experiment will specify factor effects that are in fact from these variable influences.

Step 5

Block out Known Sources of Variation: Through blocking, one can screen out the effects of known variables such as shift changes or machine differences.

One can divide the experimental runs into homogenous blocks and then mathematically remove the differences. This increases the sensitivity of the design of experiment. However, it is important to not block out anything one wants to study.

Step 6

Know Which Effects *ifany* Will be Aliased: An alias means that one has changed one or more things in the same way at the same time.

Step 7

Do a Sequential Series of Experiments: When conducting a design of experiment it is important to conduct it in a chronological manner, that is, information gleaned in one experiment should be able to be applied to the next.

Step 8

Always Confirm Critical Findings: At the end of a design of experiment, it is easy to assume that the results are accurate.

However, it is important to confirm one's findings and to verify the results. This validation can be done using many other management tools available.

Conclusion

Design of Experiments is an important tool that can be utilized in most manufacturing industries. Managers, who use the method, will not only save on costs but also make improvements in the quality of their product as well as ensure process efficiency.

Once Design of Experiments is completed, the managers should make an extra effort to validate the outcome and carry out further analysis of the findings.

EFFECTIVE COMMUNICATION SKILLS

Introduction

Communication is the only interaction that we make when we involve with another party. Regardless of whether it is personal relationship or a professional one, communication keeps us connected to one another in the community.

Therefore, communication is the main mechanism where the conflicts are arisen as well as they are solved.

Therefore, effective communication can make sure that you communicate appropriately and correctly in order to minimize such confrontations.

In case, there are disagreements or conflicts, effective communication can be again used for solving such issues.

The Main Skills for Effective Communication

Following are the main skills one should have to master to become an effective communicator.

Although acquiring all these skills and mastering them to the same level seems to be challenging, knowing all these skills and slowly working on them will take you to the level you want to be in communication.

Staying Focused

When you deal with a current crisis or an argument, relating something from the past is quite natural.

When this happens, most of the times, the discussion goes out of topic and the situation can become quite complicated.

Staying focused is one of the best skills not only for communicating under pressure, but for all types of communications ranging from lunch chitchats to board discussions.

If you go out of focus, there is a high chance that the end result of the communication may not be effective.

Listening Carefully

Although people think that they are listing when another person talks, actually they are spending time planning what to say next.

This is what we actually do! Therefore, you need to make an extra effort in order to listen to what the other person says and then come up with what you want to say.

If you are not sure what you've heard, repeat it and ask for their confirmation.

Understanding Others' Point of Views

In most of the communications, we want ourselves heard and understood. We talk a lot on our point of view and try to get the buying of who are listening.

Remember, others also do the same! If you want them to hear you, you need to hear them and understand their point of view too.

If you can really see through their point of view, you can actually explain yours in a clear and applicable way.

Empathy When Criticizing

Sometimes, we become really defensive when someone criticizes us. Since criticism has close ties with emotions, we can be easily erupted.

But, in communication, it is really important to listen to the other person's pain and difficulties and respond with empathy.

At the same time, try to extract the facts and the truth in what they say, it can be useful for you.

Taking Ownership

Taking personal responsibility is a strength. When it comes to effective communication, admitting what you did wrong is respected and required.

Most of the times, there are many people, who share responsibility in a conflict. In such cases, admit what is yours. This behaviour shows maturity and sets an example.

Your behaviour most probably will inspire others to take responsibility for their share.

Compromise if Necessary

We love to win arguments all the time, but how often have you felt empty inside after winning an argument? Sometimes, winning an argument does not make sense.

You may win the argument but might lose the corporation of other people. Communication is not about winning, it's about getting things done.

For the objective of getting things done, you may have to compromise in the process. If it is necessary, please do!

Take a Time-Out if Necessary

Sometimes, you need to take a break in the middle of the discussion. If the communication is intensive, there can be ineffective communication pattern surfaced.

Once you notice such patterns, you need to take a break and then continue. When you continue after the break, all the parties involved in the discussion will be able to constructively contribute for the discussion.

Compete for Your Objective

Although there can be a lot of obstacles on your way, do not give up what you are fighting for.

Surely you may have to compromise, but clearly stand for what you believe in. When it comes to communication, all the parties involved should satisfy with the outcome of it.

Ask for Help

Sometimes, you might have difficulties to communicate certain things to certain parties. This could be due to an issue related to respect or something else.

In such cases, seek help from others. Your manager will be one of the best persons to help you with.

Conclusion

In a corporate environment, effective communication is the key to win your way to success.

Regardless of whether you are targeting your career growth or winning the next big project, effective communication can make your way to the objective.

In addition, effective communication can get you a lot of support from your subordinates as well.

EFFECTIVE PRESENTATION SKILLS

Introduction

Have you ever seen a keynote presentation done by Steve Jobs, the CEO of Apple Inc? If you have, you know what it means to have 'effective presentation skills.' Steve Jobs is not the only one who has this ability, there are plenty more.

Problems are meant to exist in organizations. That's why there should be a strong process and supporting tools for identifying the causes of the problems before the problems damage the organization.

If you are to communicate an idea, concept or a product, you need to have good presentation skills in order to grab the attention of the audience and become the center of attention.

This way, it is easy for you to get the audience's support. The audience can range from your college classmates to an executive board of a multinational company.

There are many software packages you can use for presentation purposes. Of course, it is not mandatory to use software for your presentation, but the effect is much greater when you use such

tools for your purpose. Many of these software tools are equipped with features and facilities to make your presentation experience easy and pleasant.

Having just an idea or a product to communicate and a software package to create your presentations do not make you an effective presenter. For this, you should prepare yourself in advance and also should develop some skills. Let's take a look at some of the pointers that will help you to become a top-class presenter.

Guidelines for Designing the Presentation

The design and the layout of the presentation have an impact on how the audience receives it. Therefore, you need to focus more on the clarity of your presentation and the content.

Following are some points you should consider when designing your presentation.

- Derive the top three goals that you want to accomplish through your presentation. The entire presentation should focus on achieving these three goals. If you are not clear about what you want to achieve, your audience can easily miss the point of your presentation.
- Understand what your audience is. Think why they are there to see your presentation and their expectations. Study the background of the audience in advance if possible. When you do the presentation, make sure that you communicate to them that they are 'selected' for this presentation.
- Have a list of points that you want to communicate to your audience, prioritize them accordingly. See whether there is any point that is difficult to understand by the audience. If there are such points, chunk them further.
- Decide on the tone you want to use in the presentation. It could be motivational, informational, celebration, etc.
- Prepare an opening speech for the presentation. Do not spend much time on it though.
- Point out all contents in brief and explain them as you've planned.
- Have a Q&A *questionsandanswers* session at the end of the presentation.

Choosing the Presentation Materials

When your presentation is supported by additional material, you can make more impact on the audience. Reports, articles and flyers are just a few examples.

If your presentation is informative and a lot of data is presented, handing out a soft or hard copy of your presentation is a good idea.

Following are some guidelines on presentation materials:

- Make sure that you check the computer, projector and network connectivity in advance to the presentation. I'm sure you do not want to spend the first half of your presentation fixing those in front of your audience.
- Use a simple, but consistent layout. Do not overload the presentation with images and animations.
- When it comes to time allocation, spend 3-5 minutes for each slide. Each slide should ideally have about 5-8 bullet lines. This way, the audience can stay focused and grab your points.
- Do not distribute the supplementary material before the presentation. They may read the material during the presentation and miss what you say. Therefore, distribute the material after the presentation.

Presentation Delivery

Delivering the presentation is the most important step of the process. This is where you make the primary contact with your audience. Consider the following points in order to deliver an effective presentation.

- Be prepared for your presentation. Complete the designing phase of the presentation and practice it a few times before you actually do it. This is the most important part of your presentation. Know the content of your presentation in and out. When you know your presentation, you can recover if something goes wrong.
- Use true examples to explain your points. If these examples are common to you and the audience, it will have a great impact. Use your personal experiences to show them the practical point of view.
- Relax! Stay relaxed and calm during the presentation. Your body language is quite important for the audience. If they see you tensed, they may not receive what you say. They may even judge you!
- Use humour in the presentation. Use it naturally to make your point. Do not try to crack jokes when you are not supposed to do it.
- Pay attention to details. Remember the old saying; devil is in details. Choose the place, people and materials wisely.

Conclusion

Presenting your idea to convince an audience is always a challenge.

Every presentation is a new experience for all of us. Therefore, you should plan your presentations way in advance.

Pay close attention to the points we discussed above and adhere to them in your next presentation.

Good luck!

ENTERPRISE RESOURCE PLANNING *ERP*

Introduction

In any industry, some of the demands managers face is to be cost effective. In addition to that, they are also faced with challenges such as to analyze costs and profits on a product or consumer basis, to be flexible to face ever altering business requirements, and to be informed of management decision making processes and changes in ways of doing business.

However, some of the challenges holding managers back include the difficulty in attaining accurate information, lack of applications that mimic existing business practices and bad interfaces. When some challengers are holding a manager back, that is where Enterprise Resource Planning *ERP* comes into play.

Over the years business applications have evolved from Management Information Systems with no decision support to Corporate Information Systems, which offer some decision support to Enterprise Resource Planning. Enterprise Resource Planning is a software solution that tackles the needs of an organization, taking into account the process view to meet an organization's goals while incorporating all the functions of an organization.

Its purpose is to make easy the information flow between all business functions within the boundaries of the organization and manage the organization's connections with its outside stakeholders.

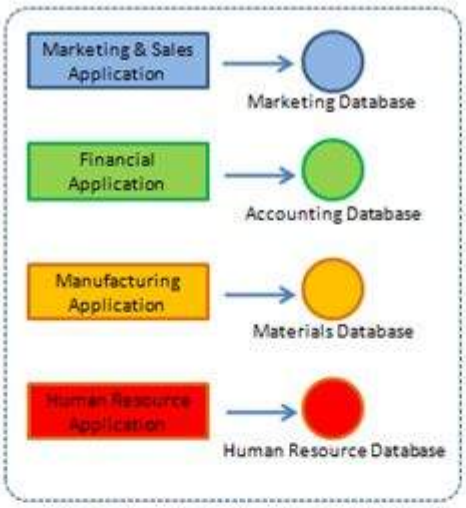
In a nutshell, the Enterprise Resource Planning software tries to integrate all the different departments and functions of an organization into a single computer system to serve the various needs of these departments.

The task at hand, of implementing one software program that looks after the needs of the Finance Department together with the needs of the Human Resource Department and the Warehouse, seems impossible. These different departments usually have an individual software program that is optimized in the way each department works.

However, if installed correctly this integrated approach can be very cost effective for an organization. With an integrated solution, different departments can easily share information and

communicate with one another.

The following diagram illustrates the differences between non-integrated systems versus an integrated system for enterprise resource planning.



Non-integrated System

Integrated System

The Driving Force behind ERP

There are two main driving forces behind Enterprise Resource Planning for a business organization.

- In a business sense, Enterprise Resource Planning ensures customer satisfaction, as it leads to business development that is development of new areas, new products and new services.

  Also, it allows businesses to face competition for implementing Enterprise Resource Planning, and it ensures efficient processes that push the company into top gear.

- In an IT sense: Most softwares does not meet business needs wholly and the legacy systems today are hard to maintain. In addition, outdated hardware and software is hard to maintain.

Hence, for the above reasons, Enterprise Resource Planning is necessary for management in today's business world. ERP is single software, which tackles problems such as material shortages, customer service, finances management, quality issues and inventory problems. An ERP system can be the dashboard of the modern era managers.

Implementing ERP System

Producing Enterprise Resource Planning ERP software is complex and also has many significant implications for staff work practice. Implementing the software is a difficult task too and one that 'in-house' IT specialists cannot handle. Hence to implement ERP software, organizations hire third party consulting companies or an ERP vendor.

This is the most cost effective way. The time taken to implement an ERP system depends on the size of the business, the number of departments involved, the degree of customization involved, the magnitude of the change and the cooperation of customers to the project.

Advantages of ERP System

- With Enterprise Resource Planning ERP software, accurate forecasting can be done. When accurate forecasting inventory levels are kept at maximum efficiency, this allows for the organization to be profitable.
- Integration of the various departments ensures communication, productivity and efficiency.
- Adopting ERP software eradicates the problem of coordinating changes between many systems.
- ERP software provides a top-down view of an organization, so information is available to make decisions at anytime, anywhere.

Disadvantages of ERP System

- Adopting ERP systems can be expensive.
- The lack of boundaries created by ERP software in a company can cause problems of who takes the blame, lines of responsibility and employee morale.

Conclusion

While employing an ERP system may be expensive, it offers organizations a cost efficient system in the long run.

ERP software works by integrating all the different departments in on organization into one computer system allowing for efficient communication between these departments and hence enhances productivity.

The organizations should take extra precautions when it comes to choosing the correct ERP system for them. There have been many cases that organizations have lost a lot of money due to selecting the 'wrong' ERP solution and a service provider for them.

EVENT CHAIN METHODOLOGY

Introduction

In the initial stages of a project, complex processes and the many risks involved make it impossible to accurately model. A model of a project is necessary for efficient project management.

Event Chain Methodology, an improbable modelling and schedule network analysis technique, is a solution to this problem. This technique is used to manage events and event chains that influence project schedules.

It is neither a simulation nor a risky analysis method but rather works using existing methodologies such as Monte Carlo Analysis and Bayesian Believe Network. Also, event chain methodology is used for modelling probabilities for different businesses and many technological processes of which one is project management.

Principles of Event Chain Methodology

Event Chain Methodology is based on six main principles

Principle 1

Moment of Risk and State of Activity - In a real life project process, a task or an activity is not always a continuous procedure. Neither is it a uniform one. A factor that influences tasks is external events, which in turn transform tasks or activities from one position to another.

During the course of a project, the time or moment when an event occurs is a very important component of the event. This time or moment is predominantly probabilistic and can be characterized using statistical distribution. More often than not, these external events have a negative impact on the project.

Principle 2

Event Chains - An external event can lead to another event and so forth. This creates event chains. Event chains have a significant impact of the course of a project.

For example, any changed requirements to the materials needed for the project can cause the activity to be delayed. The project manager then allocates resources from another activity. This leads to missed deadlines and eventually leads to the failure of the project.

Principle 3

Monte Carlo Simulations - On the clear definition of events and event chains, Monte Carlo Analysis is utilized in order to quantify the collective consequences of the events.

The probability of the risks occurring and the effects they may have are used as input data for the Monte Carlo Analysis. This analysis gives a probability curve of the project schedule.

Principle 4

Critical Event Chains - Critical events or critical chains of events are those with the potential to impinge on a project the most. By identifying such events at the very beginning, it is possible to lessen the negative effect they have on projects.

These types of events can be detected by examining the connections between the primary project parameters.

Principle 5

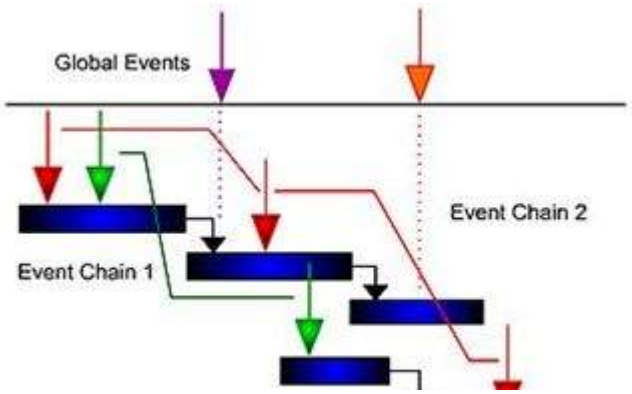
Performance Tracking With Event Chains - It is important for a manager to track the progress of an activity live. This ensures that updated information is used for the Monte Carlo Analysis.

Hence during the duration of the project, the probability of events can be calculated more accurately using actual data.

Principle 6

Event Chain Diagrams - Event Chain Diagrams depict the relationships between external events and tasks and how the two affect each other. These chains are represented by arrows that are associated with a particular activity or time interval on a Gantt chart.

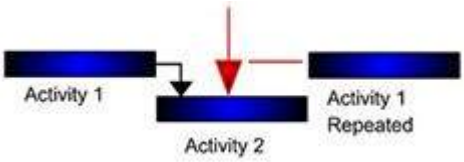
Each event and event chain is represented by a different color. Global events affect all the tasks in a project while local events affect just one task or activity in a project. Event Chain Diagrams allow for the simple modelling and analysis of risks.



Event Chain Methodology Phenomenon

The use of Event Chain Methodology in project management produces some interesting phenomenon:

- **Repeated Activity -** Certain external events cause the repetition of activities that have already been completed.



- **Event Chains and Risk Mitigation -** When an event occurs during the course of a project, a mitigation plan, that is an activity that expands the project schedule, is drawn up. The same mitigation plans may be used for several events.
- **Resource Allocation Based on Events -** Another phenomenon that occurs with Event Chain Methodology is the reallocation of resources from one activity to another.

Conclusion

Using existing techniques such as the Monte Carlo Analysis, Event Chain Methodology manages events and subsequent event chains in project management.

Working by six principles, this methodology simplifies the risks and reservations associated with project schedules. Therefore, the project managers and other senior managers, who are responsible for project accounts should have a clear understanding on the Event Chain Methodology.

Since Event Chain Methodology is closely related to many other techniques used in project management, such as Gantt Charts and Monte Carlo Analysis, the project management should be thorough with all supporting techniques and tools for Event Chain Methodology.

EXTREME PROJECT MANAGEMENT

Introduction

There are many methodologies and techniques used when it comes to project management. Some of these methodologies have been there in practice for decades and some of them are brand new.

The latter methodologies have been introduced to the world of project management in order to address some of the difficulties faced by the old methodologies when it comes to addressing modern requirements and challenges of project management.

Extreme project management is one of the modern approaches to project management in software industry. As we all know, the software industry is a fast growing and fast changing domain.

Therefore, most of the software development projects do have changing requirements from the inception to the end of the project. Adding new requirements or changing the requirements during the project execution period is one of the main challenges faced by the traditional project management approach.

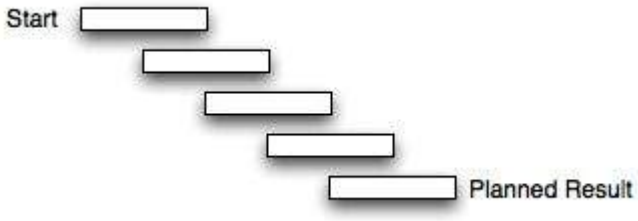
The new approach, Extreme Project Management, mainly addresses the aspect of changing requirements.

The Definition

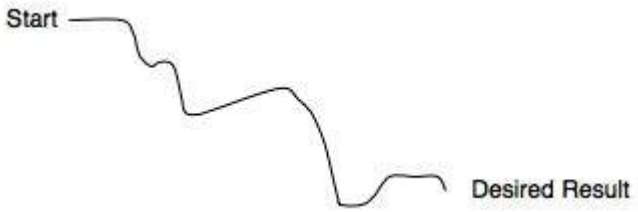
Let's do some visual comparison between the traditional project management approach and the

extreme project management approach in order to understand the nature of extreme project management clearly.

In the traditional approach, the project phases look like below



In the extreme approach, a project will take the following form



By comparing the two visual representations, you will now understand the dynamics of the extreme approach. In extreme project management methodology, there are no fixed project phases and fixed set of guidelines on how to execute the project activities.

Rather, extreme methodology adapts to the situation and executes the project activity the best way possible.

By nature, extreme project management methodology does not have lengthy deadlines or delivery dates. The delivery cycles are shorter and usually they are 2 weeks.

Therefore, the entire project team is focused on delivering the scope of the delivery in short term. This allows the team to welcome any scope or requirement changes for the next delivery cycle.

Extreme Vs Conventional Project Management

The best way to compare traditional project management and extreme project management is through a comparison between classical music and jazz. Extreme project management is like jazz music.

The team members are given a lot of freedom to add their variety to the project team. Whenever a team member feels making a decision that will add value to the overall project, it is allowed by the project management.

In addition, each individual of the project team is responsible for the management of their own assignment and the quality of the same.

In contrast, the traditional approach is much more streamlined, well-defined approach where the project manager guides the entire team towards project goals.

In extreme project management approach, team members collectively share the project management responsibilities.

The Mindset

Mindset is the most critical factor when it comes to extreme project management. First of all, the team should undergo a comprehensive training on extreme approach in order to understand the basics and core principles of the approach.

In this training, the individuals also get to gauge themselves and see whether they are a fit or not.

In extreme approach, things are done totally a different way, when compared to tradition approaches. Therefore, changing the mindset of the project team is one of the main requirements

and responsibilities of the management team.

When it comes to changing the mindset, consider the following rules as the ground rules for extreme approach for project management.

- Requirements and project activities being chaotic is normal
- Uncertainty is the most certain characteristic of an extreme project
- This type of projects are not fully controllable
- Change is the king and you need to welcome it every possible way
- The feeling of security is increased by relaxing the project controls

Self-Management

Self-management is one of the key aspects of extreme project management. As we have already elaborated, there is no central project management authority in such projects. The project manager is just a facilitator and a mentor.

Therefore, the project management responsibilities are distributed among the project team members. Each member of the project should execute their management responsibilities and indirectly contribute to the management function of the project.

Conclusion

Extreme project management is like living in a different planet. You cannot compare extreme approach to the traditional approach and try to find truce.

Therefore, moving from traditional approach to extreme approach is not quite as easy as moving from Windows to Mac.

If you are having the responsibility of managing a team through extreme approach, first see whether you are ready for the challenge. Go through a good training on extreme project management and learn as much as you can.

Never try to define or approach extreme project tasks through conventional definitions and approaches.

GANTT CHART TOOL

Introduction

Gantt chart is a type of a bar chart that is used for illustrating project schedules. Gantt charts can be used in any projects that involve effort, resources, milestones and deliveries.

At present, Gantt charts have become the popular choice of project managers in every field.

Gantt charts allow project managers to track the progress of the entire project. Through Gantt charts, the project manager can keep a track of the individual tasks as well as of the overall project progression.

In addition to tracking the progression of the tasks, Gantt charts can also be used for tracking the utilization of the resources in the project. These resources can be human resources as well as materials used.

Gantt chart was invented by a mechanical engineer named Henry Gantt in 1910. Since the invention, Gantt chart has come a long way. By today, it takes different forms from simple paper based charts to sophisticated software packages.

The Use

As we have already discussed, Gantt charts are used for project management purposes. In order to use Gantt charts in a project, there are a few initial requirements fulfilled by the project.

First of all, the project should have a sufficiently detailed Work Breakdown Structure *WBS*.

Secondly, the project should have identified its milestones and deliveries.

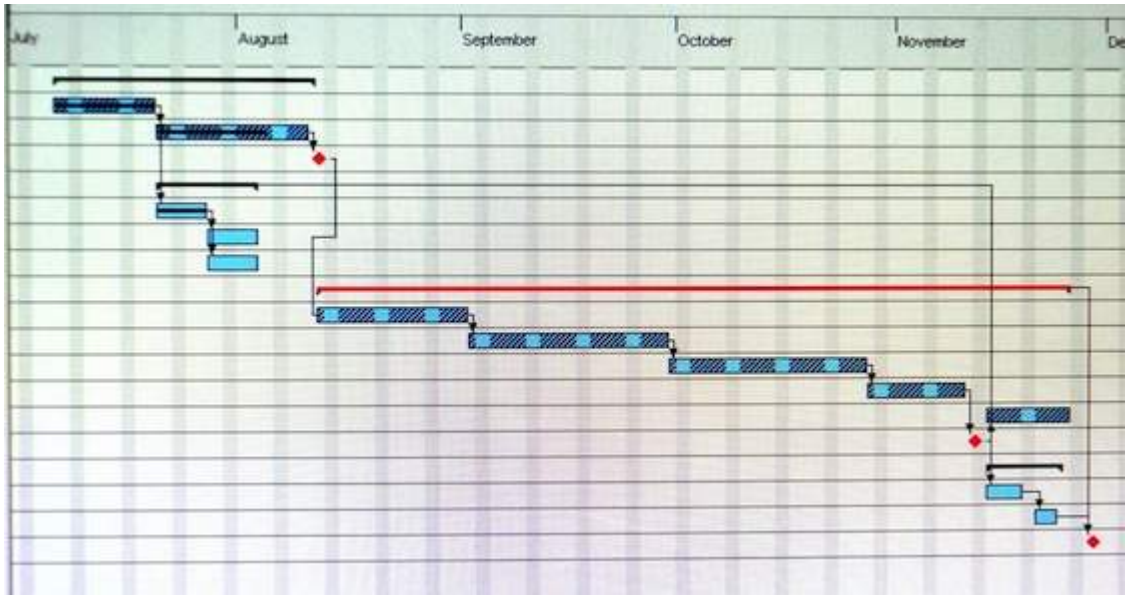
In some instances, project managers try to define the work break down structure while creating Gantt chart. This is one of the frequently practised errors in using Gantt charts. Gantt charts are not designed to assist WBS process; rather Gantt charts are for task progress tracking.

Gantt charts can be successfully used in projects of any scale. When using Gantt charts for large projects, there can be an increased complexity when tracking the tasks.

This problem of complexity can be successfully overcome by using computer software packages designed for offering Gantt chart functionalities.

Tools Available

There are dozens of Gantt chart tools that can be used for successful project tracking. These tools usually vary by the feature offered.



The simplest kind of Gantt chart can be created using a software tool such as Microsoft Excel. For that matter, any spreadsheet tool can be used to design a Gantt chart template.

If the project is small scale and does not involve many parallel tasks, a spreadsheet based Gantt chart can be the most effective type.

Microsoft Project is one of the key Gantt chart tools used today. Especially for software development projects, MS Project based Gantt charts are essential to track the hundreds of parallel tasks involved in the software development life cycle.

There are many other Gantt chart tools available for free and for price. The features offered by these tools range from the same features offered by Excel based Gantt charts to MS Project Gantt charts. These tools come with different price tags and feature levels, so one can select the suitable Gantt chart tool for the purpose in hand.

Creating Your Own

Sometimes, one may decide to create their own Gantt chart tool without buying an existing one. If this is the case, first of all, one should search the Internet for free Gantt chart templates.

This way, one may actually find the exact Gantt chart template *probablyinExcel* required for the purpose. In case, if no match is found, then it is sensible to create one's own.

Excel is the most popular tool for creating custom Gantt charts. Of course, one can create a Gantt chart from scratch in Excel, but it is always advisable to use a Project Management add-on in Excel to create Gantt charts.

These project management add-ons are published by Microsoft and other third-party companies.

Advantages & Disadvantages

The ability to grasp the overall status of a project and its tasks at once is the key advantage in using a Gantt chart tool. Therefore, upper management or the sponsors of the project can make informed decisions just by looking at the Gantt chart tool.

The software-based Gantt charts are able to show the task dependencies in a project schedule. This helps to identify and maintain the critical path of a project schedule.

Gantt chart tools can be used as the single entity for managing small projects. For small projects, no other documentation may be required; but for large projects, the Gantt chart tool should be supported by other means of documentation.

For large projects, the information displayed in Gantt charts may not be sufficient for decision making.

Although Gantt charts accurately represent the cost, time and scope aspects of a project, it does not elaborate on the project size or size of the work elements. Therefore, the magnitude of constraints and issues can be easily misunderstood.

Conclusion

Gantt chart tools make project manager's life easy. Therefore, Gantt chart tools are important for successful project execution.

Identifying the level of detail required in the project schedule is the key when selecting a suitable Gantt chart tool for the project.

One should not overly complicate the project schedules by using Gantt charts to manage the simplest tasks.

JUST-IN-TIME MANUFACTURING *JIT*

Introduction

Just-in-time manufacturing was a concept introduced to the United States by the Ford motor company. It works on a demand-pull basis, contrary to hitherto used techniques, which worked on a production-push basis.

To elaborate further, under just-in-time manufacturing *colloquiallyreferredtoasJITproductionsystems*, actual orders dictate what should be manufactured, so that the exact quantity is produced at the exact time that is required.

Just-in-time manufacturing goes hand in hand with concepts such as Kanban, continuous improvement and total quality management *TQM*.

Just-in-time production requires intricate planning in terms of procurement policies and the manufacturing process if its implementation is to be a success.

Highly advanced technological support systems provide the necessary back-up that Just-in-time manufacturing demands with production scheduling software and electronic data interchange being the most sought after.

Advantages Just-In-Time Systems

Following are the advantages of Adopting Just-In-Time Manufacturing Systems

- Just-in-time manufacturing keeps stock holding costs to a bare minimum. The release of storage space results in better utilization of space and thereby bears a favorable impact on the rent paid and on any insurance premiums that would otherwise need to be made.
- Just-in-time manufacturing eliminates waste, as out-of-date or expired products; do not enter into this equation at all.
- As under this technique, only essential stocks are obtained, less working capital is required to

finance procurement. Here, a minimum re-order level is set, and only once that mark is reached, fresh stocks are ordered making this a boon to inventory management too.

- Due to the aforementioned low level of stocks held, the organizations return on investment *referredtoasROI*, *inmanagementparlance* would generally be high.
- As just-in-time production works on a demand-pull basis, all goods made would be sold, and thus it incorporates changes in demand with surprising ease. This makes it especially appealing today, where the market demand is volatile and somewhat unpredictable.
- Just-in-time manufacturing encourages the 'right first time' concept, so that inspection costs and cost of rework is minimized.
- High quality products and greater efficiency can be derived from following a just-in-time production system.
- Close relationships are fostered along the production chain under a just-in-time manufacturing system.
- Constant communication with the customer results in high customer satisfaction.
- Overproduction is eliminated when just-in-time manufacturing is adopted.

Disadvantages

Following are the disadvantages of Adopting Just-In-Time Manufacturing Systems

- Just-in-time manufacturing provides zero tolerance for mistakes, as it makes re-working very difficult in practice, as inventory is kept to a bare minimum.
- There is a high reliance on suppliers, whose performance is generally outside the purview of the manufacturer.
- Due to there being no buffers for delays, production downtime and line idling can occur which would bear a detrimental effect on finances and on the equilibrium of the production process.
- The organization would not be able to meet an unexpected increase in orders due to the fact that there are no excess finish goods.
- Transaction costs would be relatively high as frequent transactions would be made.
- Just-in-time manufacturing may have certain detrimental effects on the environment due to the frequent deliveries that would result in increased use of transportation, which in turn would consume more fossil fuels.

Precautions

Following are the things to Remember When Implementing a Just-In-Time Manufacturing System

- Management buy-in and support at all levels of the organization are required; if a just-in-time manufacturing system is to be successfully adopted.
- Adequate resources should be allocated, so as to obtain technologically advanced software that is generally required if a just-in-time system is to be a success.
- Building a close, trusting relationship with reputed and time-tested suppliers will minimize unexpected delays in the receipt of inventory.
- Just-in-time manufacturing cannot be adopted overnight. It requires commitment in terms of time and adjustments to corporate culture would be required, as it is starkly different to traditional production processes.
- The design flow process needs to be redesigned and layouts need to be re-formatted, so as to incorporate just-in-time manufacturing.
- Lot sizes need to be minimized.

- Workstation capacity should be balanced whenever possible.
- Preventive maintenance should be carried out, so as to minimize machine breakdowns.
- Set-up times should be reduced wherever possible.
- Quality enhancement programs should be adopted, so that total quality control practices can be adopted.
- Reduction in lead times and frequent deliveries should be incorporated.
- Motion waste should be minimized, so the incorporation of conveyor belts might prove to be a good idea when implementing a just-in-time manufacturing system.

Conclusion

Just-in-time manufacturing is a philosophy that has been successfully implemented in many manufacturing organizations.

It is an optimal system that reduces inventory whilst being increasingly responsive to customer needs, this is not to say that it is not without its pitfalls.

However, these disadvantages can be overcome with a little forethought and a lot of commitment at all levels of the organization.

KNOWLEDGE MANAGEMENT

Introduction

Knowledge management is an activity practised by enterprises all over the world. In the process of knowledge management, these enterprises comprehensively gather information using many methods and tools.

Then, gathered information is organized, stored, shared, and analyzed using defined techniques.

The analysis of such information will be based on resources, documents, people and their skills.

Properly analyzed information will then be stored as 'knowledge' of the enterprise. This knowledge is later used for activities such as organizational decision making and training new staff members.

There have been many approaches to knowledge management from early days. Most of early approaches have been manual storing and analysis of information. With the introduction of computers, most organizational knowledge and management processes have been automated.

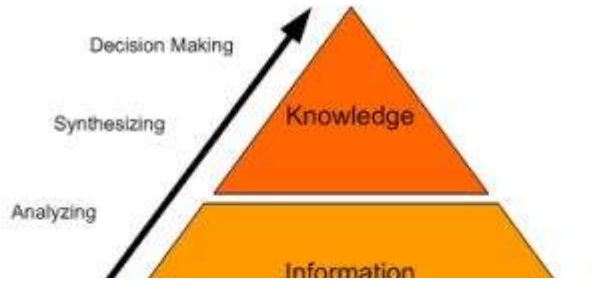
Therefore, information storing, retrieval and sharing have become convenient. Nowadays, most enterprises have their own knowledge management framework in place.

The framework defines the knowledge gathering points, gathering techniques, tools used, data storing tools and techniques and analyzing mechanism.

The Knowledge Management Process

The process of knowledge management is universal for any enterprise. Sometimes, the resources used, such as tools and techniques, can be unique to the organizational environment.

The Knowledge Management process has six basic steps assisted by different tools and techniques. When these steps are followed sequentially, the data transforms into knowledge.



Step 1: Collecting

This is the most important step of the knowledge management process. If you collect the incorrect or irrelevant data, the resulting knowledge may not be the most accurate. Therefore, the decisions made based on such knowledge could be inaccurate as well.

There are many methods and tools used for data collection. First of all, data collection should be a procedure in knowledge management process. These procedures should be properly documented and followed by people involved in data collection process.

The data collection procedure defines certain data collection points. Some points may be the summary of certain routine reports. As an example, monthly sales report and daily attendance reports may be two good resources for data collection.

With data collection points, the data extraction techniques and tools are also defined. As an example, the sales report may be a paper-based report where a data entry operator needs to feed the data manually to a database whereas, the daily attendance report may be an online report where it is directly stored in the database.

In addition to data collecting points and extraction mechanism, data storage is also defined in this step. Most of the organizations now use a software database application for this purpose.

Step 2: Organizing

The data collected need to be organized. This organization usually happens based on certain rules. These rules are defined by the organization.

As an example, all sales-related data can be filed together and all staff-related data could be stored in the same database table. This type of organization helps to maintain data accurately within a database.

If there is much data in the database, techniques such as 'normalization' can be used for organizing and reducing the duplication.

This way, data is logically arranged and related to one another for easy retrieval. When data passes step 2, it becomes information.

Step 3: Summarizing

In this step, the information is summarized in order to take the essence of it. The lengthy information is presented in tabular or graphical format and stored appropriately.

For summarizing, there are many tools that can be used such as software packages, charts $Pareto, cause-and-effect$, and different techniques.

Step 4: Analyzing

At this stage, the information is analyzed in order to find the relationships, redundancies and patterns.

An expert or an expert team should be assigned for this purpose as the experience of the person/team plays a vital role. Usually, there are reports created after analysis of information.

Step 5: Synthesizing

At this point, information becomes knowledge. The results of analysis $usuallythereports$ are combined together to derive various concepts and artefacts.

A pattern or behavior of one entity can be applied to explain another, and collectively, the organization will have a set of knowledge elements that can be used across the organization.

This knowledge is then stored in the organizational *knowledge base* for further use.

Usually, the knowledge base is a software implementation that can be accessed from anywhere through the Internet.

You can also buy such knowledge base software or download an open-source implementation of the same for free.

Step 6: Decision Making

At this stage, the knowledge is used for decision making. As an example, when estimating a specific type of a project or a task, the knowledge related to previous estimates can be used.

This accelerates the estimation process and adds high accuracy. This is how the organizational knowledge management adds value and saves money in the long run.

Conclusion

Knowledge management is an essential practice for enterprise organizations. Organizational knowledge adds long-term benefits to the organization in terms of finances, culture and people.

Therefore, all mature organizations should take necessary steps for knowledge management in order to enhance the business operations and organization's overall capability.

LEADS, LAGS AND FLOATS

Introduction

When it comes to project activity management, activity sequencing is one of the main tasks. Among many other parameters, float is one of the key concepts used in project scheduling.

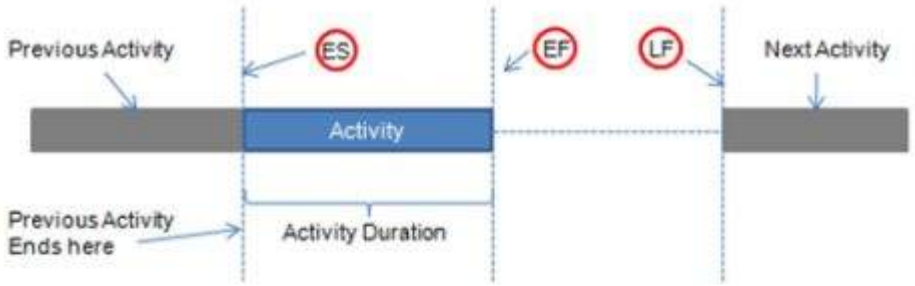
Float can be used to facilitate the freedom for a particular task. Let's have a look at the float in detail.

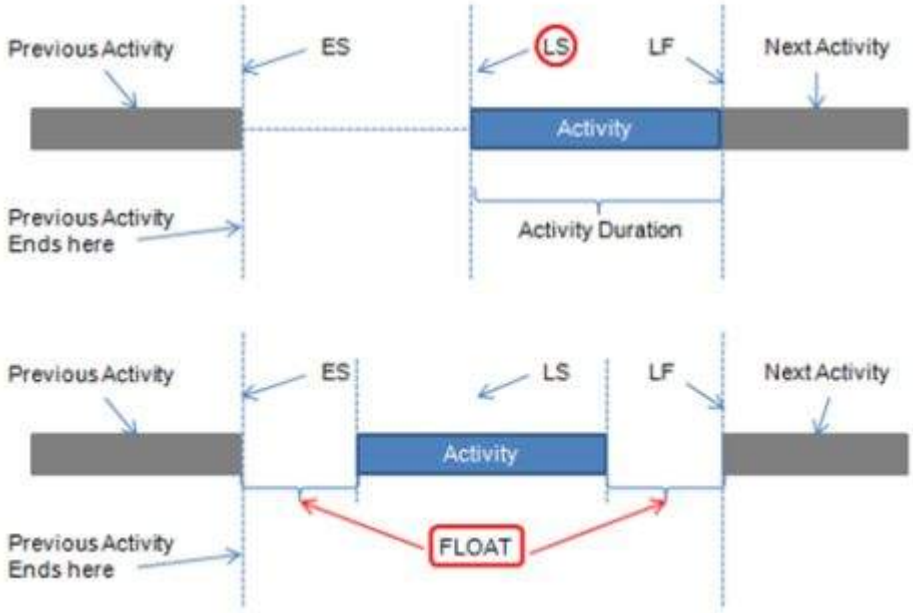
Float

When it comes to each activity in the project, there are four parameters for each related to the timelines. Those are defined as:

- **Earliest start time ES -** The earliest time, an activity can start once the previous dependent activities are over.
- **Earliest finish time EF -** This would be ES + activity duration.
- **Latest finish time LF -** The latest time an activity can finish without delaying the project.
- **Latest start time LS -** This would be LF - activity duration.

The float time for an activity is the time between the earliest ES and the latest LS start time or between the earliest EF and latest LF finish times. During the float time, an activity can be delayed without delaying the project finish date. In an illustration, this is how it looks:





Leads and Lags

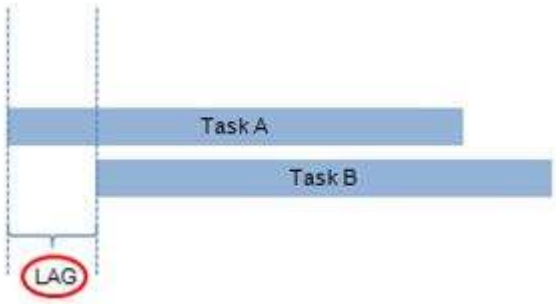
Leads and Lags are types of float. Let's take an example to understand this.

In project management, there are four types of dependencies:

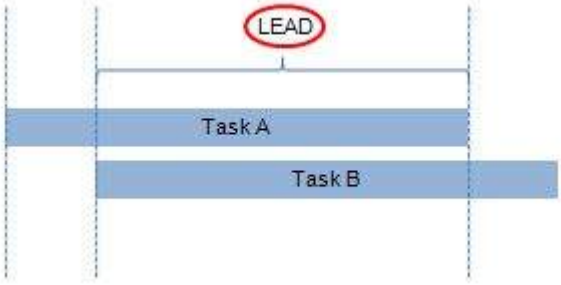
- **Finish to Start** FS **-** Later task does not start until the previous task is finished
- **Finish to Finish** FF **-** Later task does not finish until the previous task is finished
- **Start to Start** SS **-** Later task does not start until the previous task starts
- **Start to Finish** SF **-** Later task does not finish before previous task starts

Take the scenario of building two identical walls of the same house using the same material. Let's say, building the first wall is task A and building the second one is task B. The engineer wants to delay task B for two days. This is due to the fact that the material used for both A and B are a new type, so the engineer wants to learn from A and then apply if there is anything to B. Therefore, the two tasks A and B have a SS relationship.

The time between the start dates of the two tasks can be defined as a lag $2 days in this case$.



If the relationship between task A and B was Finish to Start FS, then the 'lead' can be illustrated as:



Task B started prior to Task A with a 'lead.'

Conclusion

For a project manager, the concepts of float, lead and lag make a lot of meaning and sense. These aspects of tasks are important in order to calculate project timeline variations and eventually the project completion time.

MANAGEMENT BEST PRACTICES

Introduction

Management is the core function of any organization. Management is responsible for wellbeing of the company and its stakeholders, such as the investors and employees.

Therefore, the management should be a skilled, experienced, and motivated set of individuals, who will do whatever necessary for the best interest of the company and stakeholders.

Best practices are usually outcomes of knowledge management. Best practices are the reusable practices of the organization that have been successful in respective functions.

There are two types of best practices in an organization:

- **Internal best practices -** Internal best practices are originated by the internal knowledge management efforts.
- **External *industry* best practices -** External best practices are acquired to the company by hiring the skilled, educated and experienced staff and through external trainings.

When it comes to management best practices, there are plenty. They can be further subdivided into different sub-domains within management, such as human resources, technical, etc.

But in this brief article, we take management as a general practice and will not elaborate on different sub-domains.

The Main Areas

When it comes to management best practices, we can identify five distinct areas where the best practices can be applied.

1 - Communication

Management is all about communicating to the staff and the clients. Effective communication is a must when it comes to successful management.

The management should have a set of best practices defined for clear and effective communication from/to the staff and the clients.

2 - Leading by Example

Respect is something you should earn in a corporate environment. Leading by examples is the best way of doing this. Define and adhere to leadership by example best practices and also make sure your subordinates do the same.

3 - Setting and Demanding Realistic Goals

Realistic goals can boost the corporate morale. Most of the times, organizations fail due to unrealistic, unachievable goals and objectives.

There are many best practices on how to set goals and objectives, such as SWAT analysis. Since the goals are the driving factor behind your organization, you need to make use of every possible best practice for goal setting.

4 - Open Management Style

When your management style is open and transparent, others respect you more. In addition, information directly flows from the problem areas to you.

Always try to follow the open door policies that do not restrict your subordinates coming to you directly.

5 - Strategic Planning

This is the most important best practice area when it comes to long-term benefits for the company. Usually, experienced people in management, such as Jack Welch, have their own, successful best practices for strategic corporate planning.

It is always a good idea to learn such ideas from exceptional people and apply them in your own context.

The Tools

There are many tools a manager can use for practising management best practices. Following are some areas where you can use such tools.

Benchmarking

Benchmarking is a domain itself. Accurate benchmarking helps you to understand the capability of your company or the departments.

Benchmarks can then be used for evaluating and assessing the performance of your company.

Forecasting

Forecasting, especially, financial forecasting is a key function for a business organization. There are many tools such as price sheets, effort estimates for accurate forecasting.

Performance Monitoring

Matrix is one of the best practices in performance monitoring. In addition, you can define certain KPIs *KeyPerformanceIndicators* for measuring and assessing the performance of departments, functions and people.

We will have a detailed look into KPIs in the next section.

Key Performance Indicators *KPIs*

This is the most effective way of monitoring all the aspects of your business organization.

You can set up KPIs for any aspect of the business and start monitoring the progress of the respective aspects.

As an example, you can define KPIs for sales targets and monitor their progress over time. When the sales figures do not meet the KPIs, you can look into the issues and rectify them.

The KPIs used depend on your business domain. When KPIs are defined, they should align with your overall business objectives.

Conclusion

Organizations can achieve a great success by employing management best practices.

This is one way to make sure that the same mistake is not repeated. Once a best practice is derived through knowledge management, it should be properly documented and integrated to the relevant functions of the company.

Best practices should be included into the corporate trainings regularly.

MANAGEMENT STYLES

Introduction

In an organization, managers perform many functions and play many roles. They are responsible for handling many situations and these situations are usually different from one another.

When it comes to handling such situations, managers use their own management styles.

Some management styles may be best for the situation and some may not be. Therefore, awareness on different types of management styles will help the managers to handle different situations the optimal way.

In short, a management style is a leadership method used by a manager. Let's have a look at four main management styles practised by managers all over the world.

Autocratic

In this management style, the manager becomes the sole decision maker.

The manager does not care about the subordinates and their involvement in decision making. Therefore, the decisions reflect the personality and the opinion of the manager.

The decision does not reflect the team's collective opinion. In some cases, this style of management can move a business towards its goals rapidly and can fight through a challenging time.

If the manager has a great personality, experience and exposure, the decisions made by him or her could be better than collective decision making. On the other hand, subordinates may become dependent upon the manager's decisions and may require thorough supervision.

There are two types of autocratic managers:

- **Directive autocrat**. This type of managers make their decisions alone and supervise the subordinates closely.
- **Permissive autocrat**. This type of managers make their decisions alone, but allows subordinates to freely execute the decisions.

Democratic

In this style, the manager is open to other's opinions and welcome their contribution into the decision making process. Therefore, every decision is made with the majority's agreement.

The decisions made reflect the team's opinion. For this management style to work successfully, robust communication between the managers and the subordinates is a must.

This type of management is most successful when it comes to decision making on a complex matter where a range of expert advice and opinion is required.

Before making a business decision, usually a series of meetings or brainstorming sessions take place in the organizations. These meetings are properly planned and documented.

Therefore, organization can always go back to the decision making process and see the reasons behind certain decisions. Due to the collective nature, this style of management gives more employee satisfaction.

If decision making through the democratic style takes too long for a critical situation, then it is time to employ autocrat management style before it is too late.

Paternalistic

This is one of the dictatorial types of management. The decisions made are usually for the best interest of the company as well as the employees.

When the management makes a decision, it is explained to the employees and obtains their

support as well.

In this management style, work-life balance is emphasized and it eventually maintains a high morale within the organization. In the long run, this guarantees the loyalty of the employees.

One disadvantage of this style is that the employees may become dependent on the managers. This will limit the creativity within the organization.

Laissez-faire

In this type of management, the manager is a facilitator for the staff. The employees take the responsibility of different areas of their work. Whenever the employees face an obstacle, the manager intervenes and removes it. In this style, the employee is more independent and owns his or her responsibilities. The manager has only a little managerial tasks to perform.

When compared with other styles, a minimum communication takes place in this management style between the employees and the managers.

This style of management is the best suited for companies such as technology companies where there are highly professional and creative employees.

Conclusion

Different management styles are capable of handling different situations and solving different problems.

Therefore, a manager should be a dynamic person, who has insight into many types of management styles.

MANAGEMENT BY OBJECTIVES

Introduction

There are various management philosophies and types used in the world of business. These types of management differ from one another.

In some cases, a few of these management types can be mixed together in order to create something customed for a specific requirement.

Management by Objectives *MBO* is one of the frequently used management types. The popularity and the proven results are the main reasons behind everyone adopting this technique for their organization.

As valid as it is for many management types, MBO is a systematic and organized approach that emphasizes the achievement of goals. In the long run, this allows the management to change the organization's mindset to become more result oriented.

The Concepts

The core aim of management by objectives is the alignment of company goals and subordinate objectives properly, so everyone in the organization works towards achieving the same organizational goal. In order to identify the organizational goals, the upper management usually follows techniques such as GQM *Goal*, *QuestionsandMetrics*.

In order to set the objectives for the employees, the following steps are followed:

- The management chunks down the organizational goals and assign chunks to senior managers.
- Senior managers then derive objectives for them to achieve the assigned organizational goals. This is where senior managers assign the objectives to the operational management.
- Operational management then chunks down their objectives and identify the activities required for achieving the objectives. These sub-objectives and activities are then assigned to rest of the staff.

- When objectives and activities are assigned, the management gives strong inputs to clearly identify the objectives, time frame for completion, and tracking options.
- Each objective is properly tracked and the management gives periodic feedback to the objective owner.
- In most occasions, the organization defines processes and procedures in order to track the objectives and feedback.
- At the end of the agreed period *usuallyanyear*, the objective achievement is reviewed and an appraisal is performed. Usually, the outcomes of this assessment are used to determine the salary increments for year ahead and relevant bonuses to employees.

Activity trap is one of the issues that prevent the success of MBO process. This happens when employees are more focused on daily activities rather than the long-term objectives. Overloaded activities are a result of vicious cycles and this cycle should be broken through proper planning.

The Focus

In MBO, the management focus is on the result, not the activity. The tasks are delegated through negotiations and there is no fixed roadmap for the implementation. The implementation is done dynamically and to suit the situation.

When to use MBO?

Although MBO is extremely result oriented, not all enterprises can benefit from MBO implementations. The MBO is most suitable for knowledge-based enterprises where the staff is quite competent of what they do.

Specially, if the management is planning to implement a self-leadership culture among the employees, MBO is the best way to initiate that process.

Responsibility of Individuals

Since individuals are empowered to carry out stretched tasks and responsibilities under MBO, individual responsibilities play a vital role for the success of MBO.

In MBO, there is a link built between the strategic thinking of the upper management and the operational execution of the lower levels of the hierarchy.

The responsibility of achieving the objectives is passed from the organization to each individual of the organization.

Management by objectives is mainly achieved through self-control. Nowadays, especially in knowledge-based organizations, the employees are self-managers, who are able to make their own decisions. In such organizations, the management should ask three basic questions from its employees.

- What should be your responsibilities?
- What information is required by you from the management and the peers?
- What information should you provide the management and peers in return?

Conclusion

Management by objectives has become de facto practice for management in knowledge-based organizations such as software development companies. The employees are given sufficient responsibility and authority to achieve their individual objectives.

Accomplishment of individual objectives eventually contributes to achieving organizational goals. Therefore, there should be a strong and robust process of assessing the objective achievements of each individual.

This review process should take place periodically and sufficient feedback will make sure that the individual objectives are in par with the organizational goals.

MONTE CARLO ANALYSIS

Introduction

Having been named after the principality famous for its casinos, the term Monte Carlo Analysis conjures images of an intricate strategy aimed at maximizing one's earnings in a casino game.

However, Monte Carlo Analysis refers to a technique in project management where a manager computes and calculates the total project cost and the project schedule many times.

This is done using a set of input values that have been selected after careful deliberation of probability distributions or potential costs or potential durations.

Importance of the Monte Carlo Analysis

The Monte Carlo Analysis is important in project management as it allows a project manager to calculate a probable total cost of a project as well as to find a range or a potential date of completion for the project.

Since a Monte Carlo Analysis uses quantified data, this allows project managers to better communicate with senior management, especially when the latter is pushing for impractical project completion dates or unrealistic project costs.

Also, this type of an analysis allows the project managers to quantify perils and ambiguities in project schedules.

A Simple Example of the Monte Carlo Analysis

A project manager creates three estimates for the duration of the project: one being the most likely duration, one the worst case scenario and the other being the best case scenario. For each estimate, the project manager consigns the probability of occurrence.

The project is one that involves three tasks:

- The first task is likely to take three days 70, but it can also be completed in two days or even four days. The probability of it taking two days to complete is 10% and the probability of it

taking four days to finish is 20%.

- The second task has a 60% probability of taking six days to finish, a 20% probability each of being completed in five days or eight days.
- The final task has an 80% probability of being completed in four days, 5% probability of being completed in three days and a 15% probability of being completed in five days.

Using the Monte Carlo Analysis, a series of simulations are done on the project probabilities. The simulation is to run for a thousand odd times, and for each simulation, an end date is noted.

Once the Monte Carlo Analysis is completed, there would be no single project completion date. Instead the project manager has a probability curve depicting the likely dates of completion and the probability of attaining each.

Using this probability curve, the project manager informs the senior management of the expected date of completion. The project manager would choose the date with a 90% chance of attaining it.

Therefore, it could be said that using the Monte Carlo Analysis, the project has a 90% chance of being completed in X number of days.

Similarly, a project manager can adjudge the estimated budget for a project using probabilities to simulate different end results and in turn use the findings in a probability curve.

How is the Monte Carlo Analysis Carried Out?

The above example was one that contained a mere three tasks. In reality, such projects contain hundreds if not thousands of tasks.

Using the Monte Carlo Analysis, a project manager is able to derive a probability curve to show the ambiguity surrounding the duration and the costs surrounding these hundreds or thousands of tasks.

Conducting simulations involving hundreds or thousands of tasks is a tedious job to be done manually.

Today there is project management scheduling software that can conduct thousands of simulations and offer the project manager different end results in a probability curve.

The Different Types of Probability Distributions/Curves

A Monte Carlo Analysis shows the risk analysis involved in a project through a probability distribution that is a model of possible values.

Some of the commonly used probability distributions or curves for Monte Carlo Analysis include:

- **The Normal or Bell Curve -** In this type of probability curve, the values in the middle are the likeliest to occur.
- **The Lognormal Curve -** Here values are skewed. A Monte Carlo Analysis gives this type of probability distribution for project management in the real estate industry or oil industry.
- **The Uniform Curve -** All instances have an equal chance of occurring. This type of probability distribution is common with manufacturing costs and future sales revenues for a new product.
- **The Triangular Curve -** The project manager enters the minimum, maximum or most likely values. The probability curve, a triangular one, will display values around the most likely option.

Conclusion

The Monte Carlo Analysis is an important method adopted by managers to calculate the many possible project completion dates and the most likely budget required for the project.

Using the information gathered through the Monte Carlo Analysis, project managers are able to give senior management the statistical evidence for the time required to complete a project as

well as propose a suitable budget.

MOTIVATION THEORIES

Introduction

Motivation is one of the key factors driving us towards achieving something. Without motivation, we will do nothing. Therefore, motivation is one of the key aspects when it comes to corporate management. In order to achieve the best business results, the organization needs to keep employees motivated.

In order to motivate the employees, organizations do various activities. The activities the companies do basically the results and findings of certain motivational theories.

Following are the main motivational theories practised in the modern world:

The Theories

1. Acquired Needs Theory

According to this theory, people are motivated by the greed for power, achievement and affiliation. By offering empowerment, titles and other related tokens, people can be motivated for doing their work.

2. Activation Theory

Humans can be aroused easily by their nature. In this motivation theory, the arousal is used for keeping the people motivated. Take an army as an example. The arousal for eliminating the enemy is a good motivation factor.

3. Affect Perseverance

Let's take an example. An employee is attracted to a company due to its reputation. Once the employee starts working, he/she develops loyalty towards the company. Later, due to some issue, the company loses its reputation, but employee's loyalty remains.

4. Attitude-Behaviour Consistency

In this motivation theory, the alignment of attitude and behaviour is used for motivating people.

5. Attribution Theory

The urge people have to attribute is used as a motivational factor. Usually, people like to attribute oneself as well as others in different context. This need is used for motivation in this theory.

As an example, getting one's name published in a magazine is a good motivation for the same person to engage further in writing.

6. Cognitive Dissonance

This theory emphasizes the fact that the non-alignment to something could make people uncomfortable and eventually motivate them to do the right thing.

7. Cognitive Evolution Theory

This could be considered as the most widely used motivation theory across many domains. When we select tasks to complete, we chunk them down to be doable tasks. The person is motivated to do the tasks as they are simply doable.

8. Consistency Theory

This theory uses our internal values for keeping us motivated. As an example, if we promise to do

something, we will feel bad about not doing it.

9. Control Theory

Giving the control to someone is one of the best ways to motivate them. People are thrilled to have control over things.

10. Disconfirmation Bias

People can be motivated by keeping them in an environment, which is in alignment with what they believe.

11. Drive Theory

People's need to satisfy their needs is used in this theory. As an example, imagine a case where a person is hungry in an unknown house and find some food under the staircase. When the same person feels hungry at some other unknown house, the person may look under the staircase.

12. Endowed Progress Effect

This motivation theory uses the progress as the motivation factor.

13. Escape Theory

Keeping the person in the wrong place may motivate that person to escape from that place. This is sometimes used in corporate environments for employees to find where they really belong.

14. Extrinsic Motivation

This is also one of the most used theories in the corporate world. The employee is motivated through rewards.

15. Goal-Setting Theory

Desire to achieve goals is the driving force behind this motivation theory.

16. Investment Model

The organization gets the employees to invest on certain things. If you have invested on something, you will be motivated to enhance and improve it.

17. Positive Psychology

This way, employees are motivated by making them happy when it comes to environment, rewards, personal space, etc.

18. Reactance Theory

Reducing the salary of a low performer and later setting goals to get the salary back is one of the examples for this type of motivation.

Conclusion

Motivation theories suggest many ways of keeping the employees motivated on what they do. Although a manager is not required to learn all these motivation theories, having an idea of certain theories may be an advantage for day-to-day activities.

These theories give the managers a set of techniques that they can try out in the corporate environments. Some of these theories have been used in business for decades, although we do not know them explicitly.

Introduction

Management function techniques will never be complete without the manager and even various other employees being able to negotiate effectively.

Any organization runs well based on the skills of their employees. From communication skills to negotiation skills, every organization would need to hone these skills in their workers to ensure the efficient running of a business organization.

You need to understand that these negotiation skills are not very difficult to grasp and will only take time and some careful moves with the other party for you to be able to close a good deal, thereby increasing employee productivity to a great extent.

Stages of Negotiation

The most precise definition of a 'negotiation' was given by Richard Shell in his book 'Bargaining for Advantage' as *an interactive communication process that may takes place whenever we want something from someone else or another person wants something from us.*

Richard Shell then further went on to describe the process of negotiation in four stages:

1. Preparation

When it comes to preparation, you would basically need to have a clear idea of how you are to go about with your points. One of the keys to effective negotiation is to be able to express your needs and your thoughts clearly to the other party.

It is important that you carry out some research on your own about the other party before you begin the negotiation process.

This way you will be able to find out the reputation of the other party and any famous tactics used by him/her to try and get people to agree.

You will then be well prepared to face the negotiator with confidence. Reading up on how to negotiate effectively will aid you to a great extent.

2. Exchanging Information

The information you provide must always be well researched and must be communicated effectively. Do not be afraid to ask questions in plenty.

That is the best way to understand the negotiator and look at the deal from his/her point of view. If you have any doubts, always clarify them.

3. Bargaining

The bargaining stage could be said to be the most important of the four stages. This is where most of the work is done by both parties. This is where the actual deal will begin to take shape. Terms and conditions are laid down.

Bargaining is never easy. Both parties would have to learn to compromise on several aspects to come to a final agreement.

This would mean that each party would therefore have to give up something to gain another. It is essential for you to always have an open mind and be tactful while at the same time not giving away too much and settling for less.

4. Closing and Commitment

The final stage would be where the last few adjustments to the deal are made by the parties involved, before closing the deal and placing their trust in each other for each to fulfill their role.

These four stages have proven to provide great results if studied carefully and applied. Many organizations use this strategy to help their employees negotiate successfully.

In the long run, you'll find that you will have mastered the art of negotiation and will be able to close a good deal without too much effort.

Negotiating Effectively

For the task of negotiation to be effective, you would have to ensure at all times that you are not being too aggressive.

Sometimes it is easy to get carried away during the process and take an aggressive approach to asserting your needs. This will not work. It is vital that you are positive about the negotiation process.

You need to keep in mind that the other party too has needs, listen to the negotiators views and opinions, and consider the deal from his/her angle.

You must always ensure that you gain the negotiators trust and that he/she would know that you are reliable.

You would also have to work on your communication skills if you are to be a good negotiator. Although the words coming out of your mouth may mean one thing, your body language could be quite hostile.

This will not bode well if a negotiation process is to be successful. You would need to always check on your body language to ensure that you are not sending out negative vibes, which may put off the negotiator completely.

It is essential to always be pleasant and calm no matter how stressful the process might be. Both these skills therefore will go hand in hand to quite an extent.

Conclusion

It is apt to end with a line from Freund in 'Anatomy of a Merger' 1975: *In the last analysis, you cannot learn negotiating techniques from a book. You must actually negotiate.*

That in itself sums up the fact that negotiation takes practice. Learning the techniques and applying them will then make you a pro at negotiating.

ORGANIZATIONAL STRUCTURES

Introduction

Any operating organization should have its own structure in order to operate efficiently. For an organization, the organizational structure is a hierarchy of people and its functions.

The organizational structure of an organization tells you the character of an organization and the values it believes in. Therefore, when you do business with an organization or getting into a new

job in an organization, it is always a great idea to get to know and understand their organizational structure.

Depending on the organizational values and the nature of the business, organizations tend to adopt one of the following structures for management purposes.

Although the organization follows a particular structure, there can be departments and teams following some other organizational structure in exceptional cases.

Sometimes, some organizations may follow a combination of the following organizational structures as well.

Organizational Structure Types

Following are the types of organizational structures that can be observed in the modern business organizations.

Bureaucratic Structures

Bureaucratic structures maintain strict hierarchies when it comes to people management. There are three types of bureaucratic structures:

1 - Pre-bureaucratic structures

This type of organizations lacks the standards. Usually this type of structure can be observed in small scale, start-up companies. Usually the structure is centralized and there is only one key decision maker.

The communication is done in one-on-one conversations. This type of structures is quite helpful for small organizations due to the fact that the founder has the full control over all the decisions and operations.

2 - Bureaucratic structures

These structures have a certain degree of standardization. When the organizations grow complex and large, bureaucratic structures are required for management. These structures are quite suitable for tall organizations.

3 - Post-bureaucratic Structures

The organizations that follow post-bureaucratic structures still inherit the strict hierarchies, but open to more modern ideas and methodologies. They follow techniques such as total quality management TQM, culture management, etc.

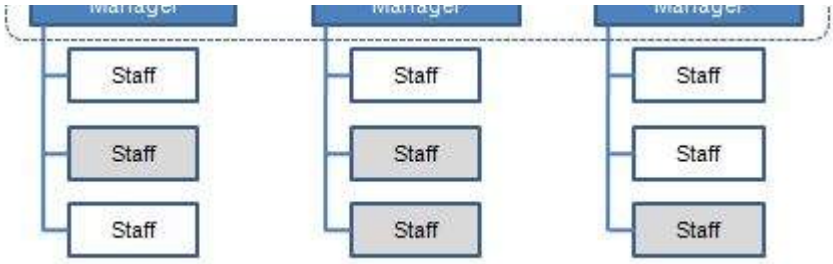
Functional Structure

The organization is divided into segments based on the functions when managing. This allows the organization to enhance the efficiencies of these functional groups. As an example, take a software company.

Software engineers will only staff the entire software development department. This way, management of this functional group becomes easy and effective.

Functional structures appear to be successful in large organization that produces high volumes of products at low costs. The low cost can be achieved by such companies due to the efficiencies within functional groups.

In addition to such advantages, there can be disadvantage from an organizational perspective if the communication between the functional groups is not effective. In this case, organization may find it difficult to achieve some organizational objectives at the end.

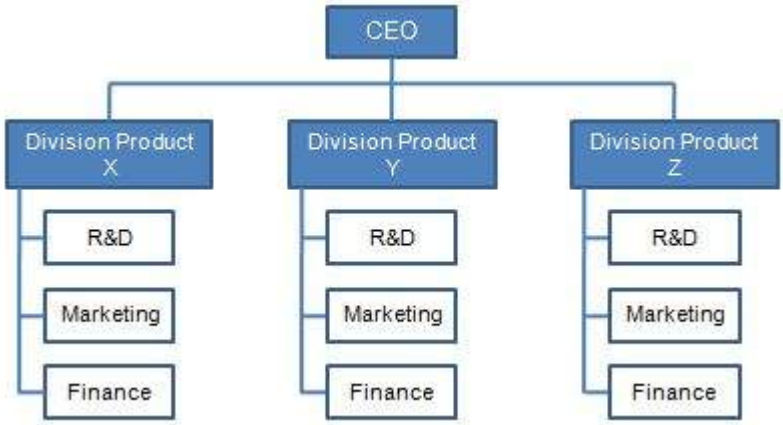


Divisional Structure

These types of organizations divide the functional areas of the organization to divisions. Each division is equipped with its own resources in order to function independently. There can be many bases to define divisions.

Divisions can be defined based on the geographical basis, products/services basis, or any other measurement.

As an example, take a company such as General Electrics. It can have microwave division, turbine division, etc., and these divisions have their own marketing teams, finance teams, etc. In that sense, each division can be considered as a micro-company with the main organization.



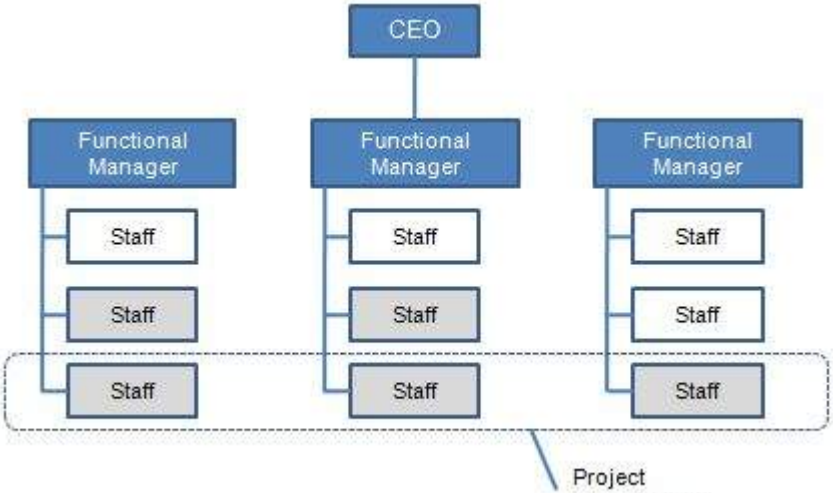
Matrix Structure

When it comes to matrix structure, the organization places the employees based on the function and the product.

The matrix structure gives the best of the both worlds of functional and divisional structures.

In this type of an organization, the company uses teams to complete tasks. The teams are formed based on the functions they belong to $ex: software engineers$ and product they are involved in $ex: Project A$.

This way, there are many teams in this organization such as software engineers of project A, software engineers of project B, QA engineers of project A, etc.



Conclusion

Every organization needs a structure in order to operate systematically. The organizational structures can be used by any organization if the structure fits into the nature and the maturity of the organization.

In most cases, organizations evolve through structures when they progress through and enhance their processes and manpower. One company may start as a pre-bureaucratic company and may evolve up to a matrix organization.

PERT ESTIMATION TECHNIQUE

Introduction

Before any activity begins related to the work of a project, every project requires an advanced, accurate time estimate. Without an accurate estimate, no project can be completed within the budget and the target completion date.

Developing an estimate is a complex task. If the project is large and has many stakeholders, things can be more complex.

Therefore, there have been many initiatives to come up with different techniques for estimation phase of the project in order to make the estimation more accurate.

PERT *ProgramEvaluationandReviewTechnique* is one of the successful and proven methods among the many other techniques, such as, CPM, Function Point Counting, Top-Down Estimating, WAVE, etc.

PERT was initially created by the US Navy in the late 1950s. The pilot project was for developing Ballistic Missiles and there have been thousands of contractors involved.

After PERT methodology was employed for this project, it actually ended two years ahead of its initial schedule.

The PERT Basics

At the core, PERT is all about management probabilities. Therefore, PERT involves in many simple statistical methods as well.

Sometimes, people categorize and put PERT and CPM together. Although CPM *CriticalPathMethod* shares some characteristics with PERT, PERT has a different focus.

Same as most of other estimation techniques, PERT also breaks down the tasks into detailed activities.

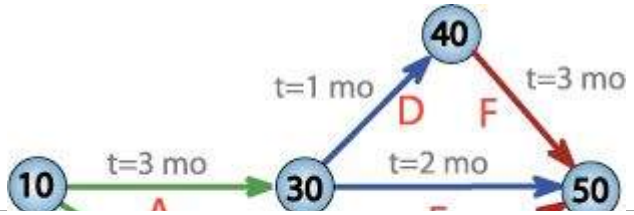
Then, a Gantt chart will be prepared illustrating the interdependencies among the activities. Then, a *network* of activities and their interdependencies are drawn in an illustrative manner.

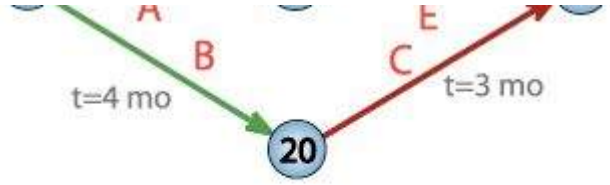
In this map, a *node* represents each event. The activities are represented as arrows and they are drawn from one event to another, based on the sequence.

Next, the Earliest Time TE and the Latest Time TL are figured for each activity and identify the slack time for each activity.

When it comes to deriving the estimates, the PERT model takes a statistical route to do that. We will cover more on this in the next two sections.

Following is an example PERT chart:





PERT network chart for a seven-month project with five milestones (10 through 50) and six activities (A through F)

The Three Chances

There are three estimation times involved in PERT; Optimistic Time Estimate $TOPT$, Most Likely Time Estimate $TLIKELY$, and Pessimistic Time Estimate $TPESS$.

In PERT, these three estimate times are derived for each activity. This way, a range of time is given for each activity with the most probable value, TLIKELY.

Following are further details on each estimate:

1. TOPT

This is the fastest time an activity can be completed. For this, the assumption is made that all the necessary resources are available and all predecessor activities are completed as planned.

2. TLIKELY

Most of the times, project managers are asked only to submit one estimate. In that case, this is the estimate that goes to the upper management.

3. TPESS

This is the maximum time required to complete an activity. In this case, it is assumed that many things go wrong related to the activity. A lot of rework and resource unavailability are assumed when this estimation is derived.

The PERT Mathematics

BETA probability distribution is what works behind PERT. The expected completion time E is calculated as below:

```
E = (TOPT + 4 x TLIEKLY + TPESS) / 6
```

At the same time, the possible variance V of the estimate is calculated as below:

```
V = (TPESS - TOPT)^2 / 6^2
```

Now, following is the process we follow with the two values:

- For every activity in the critical path, E and V are calculated.
- Then, the total of all Es are taken. This is the overall expected completion time for the project.
- Now, the corresponding V is added to each activity of the critical path. This is the variance for the entire project. This is done only for the activities in the critical path as only the critical path activities can accelerate or delay the project duration.
- Then, standard deviation of the project is calculated. This equals to the square root of the variance V.
- Now, the normal probability distribution is used for calculating the project completion time with the desired probability.

Conclusion

The best thing about PERT is its ability to integrate the uncertainty in project times estimations into its methodology.

It also makes use of many assumption that can accelerate or delay the project progress. Using PERT, project managers can have an idea of the possible time variation for the deliveries and offer delivery dates to the client in a safer manner.

PRINCE2 PROJECT METHODOLOGY

Introduction

Effective project management is essential in absolutely any organization, regardless of the nature of the business and the scale of the organization.

From choosing a project to right through to the end, it is important that the project is carefully and closely managed. This is essentially the role of the project manager and his/her team of employees.

Managing and tracking the progress of a project is no easy task. Every project manager must know *andcommunicatetohis/herteam* all the project goals, specifications and deadlines that need to be met in order to be cost-effective, save time, and also to ensure that quality is maintained so that the customer is completely satisfied.

The project plan and other documents are therefore very important right through out the project. Effective project management, however, cannot simply be achieved without employing certain techniques and methods. One such method is the PRINCE2.

PRINCE2 . What is it?

PRINCE stands for **Projects in Controlled Environments**. Dealing with a bit of history, this method was first established by the Central Computer and Telecommunications Agency *ItisnowreferredtoastheOfficeofGovernmentCommerce*.

It has since become a very commonly used project management method in all parts of the world and has therefore proven to be highly effective in various respects.

The method also helps you to identify and thereafter assign roles to the different members of the team based on expertise. Over the years, there have been a number of positive case studies of projects that have used PRINCE2 project management methodology.

This method deals with the various aspects that need to be managed in any given project.

The diagram below illustrates the idea.

In the above diagram:

- The seven principles shown in the above diagram must be applied if the project is to be called a PRINCE2 project. These principles will show you whether and how well the project is

being carried out using this particular project management method.

- Similarly, the themes of PRINCE2 refer to the seven principles that need to be referred to at all times during the project, if the project is to indeed be effective. If adherence to these principles is not carefully tracked from the inception of the project through to the end, there is a high chance that the project will fail entirely.
- The processes refer to the steps that need to be followed. This is why this method is known as a 'process-based' method.
- Finally, with regard to the project environment, it's important to know that this project management method is not rigid. Changes can be made based on how big the project is, and the requirements and objectives of each organization. PRINCE2 offer this flexibility for the project and this is one of the reasons why PRINCE2 is quite popular among the project managers.

The Pros and Cons of the Methodology

One benefit of using this method over others could be said to be the fact that it is product-based and it also divides the project into different stages making it easy to manage. This is sure to help the project team to remain focused and deliver a quality outcome at the end of the day.

The most important of all benefits is that it improves communication between all members of the team and also between the team and other external stakeholders, thereby giving the team more control of the project.

It also gives the stakeholder a chance to have a say when it comes to decision making as they are always kept informed by the issuance of reports at regular intervals.

PRINCE2 also ensures that improvements can be made in the organization. This is because you would be able to identify any flaws that you make in projects and correct, which of course would help you to a great extent in the long run.

The flexibility of PRINCE2 allows these changes to be made run-time. Although there can be some implications and issues to the project schedule when certain changes are done run-time, PRINCE2 offers some of the best practices to minimize the impact.

Your team will also learn to save a lot of time and be more economical when it comes to the use of assets and various other resources, thereby ensuring that you are also able to cut down on costs a great deal.

When it comes to disadvantages, PRNCE2 does not offer the level of flexibility offered by some of the modern project management methodologies. Since project management, especially in software industry, has grown to a different level, PRINCE2 may find difficulties in catering some of the modern project management needs.

Conclusion

It should be kept in mind that PRINCE2 is a very complex method and cannot be carried out without special training. Failure to understand precisely how it works could lead to a lot of problems and difficulties whilst carrying out the project.

PRINCE2 guidelines can be selectively applied to certain projects that do not last long. This makes the method even more flexible and thereby more appealing to dynamic organizations and projects.

PARETO CHART TOOL

Introduction

Setting priorities is one of the main management functions of an organization. If the managers do not prioritize their tasks and organizational objectives, the organization will head towards the wrong direction and eventually collapse.

Therefore, management is required to prioritize their tasks and focus on the priority items that will have a high impact on the organization.

Pareto Chart tool is one of the most effective tools that the management can use when it comes to identifying the facts needed for setting priorities. Pareto charts clearly illustrate the information in an organized and relative manner.

This way, the management can find out the relative importance of problems or causes of the problems. When it comes to prioritizing the causes of the problem, a Pareto chart can be used together with a cause-and-effect diagram.

Once the Pareto chart is created, it shows you a vertical bar chart with the highest importance to the lowest. The importance of each parameter is measured by several factors such as frequency, time, cost, etc.

The Pareto Principle

Pareto charts are created based on the Pareto principle. The principle suggests that when a number of factors affect a situation, fewer factors will be accountable for the most of the affect.

This is almost the same as 80/20 theory that you may have heard of. It says that 80% of the impact is made by 20% of causes.

The Practical Importance

When a team works together in a large and complex project, it can be quite tricky to understand the importance of certain issues. Pareto charts can show the team a few important things that really matter the most.

Most teams use Pareto charts over time in order to identify whether the suggested solution really answers the problem. If the solution is effective, the relative importance of the identified factor should take a lesser value over time.

Creating a Pareto Chart

Step 1

First of all, list down everything you need to compare. This can be a list of issues, items, or a list of problem causes.

Step 2

Decide on the standard measures to compare the list items. You need to consider organizational objectives and current trends in order to determine the measures. Some measures are:

- **Frequency** - How often it occurs *Errors, complaints, complications, etc.*
- **Cost** - How many resources are being utilized or affected
- **Time** - How long it takes

Step 3

Select a timeframe for the data collection process.

Step 4

Now, we do some simple math with the data we collected. Take each list item *orcause* and record it against the measurement selected. Then, determine its percentage in the context and all item occurrences.

As an example, if the list of item contains causes behind late comers to office, the tallying table will look like below.

Cause For Late Coming	Occurrences	% Count

Road Traffic	32	44
Rain or Snow	3	4
Not Feeling Good	6	8
Late Public Transportation	4	6
Personal Commitments	8	11
Work till Late Night	20	27
Total	73	100

Step 5

Now, rearrange the list and list the item in decreasing order. In our example, list it from the highest number of occurrences to the least number of occurrences. Then, record the cumulative percentage when you travel from the top item to the bottom item.

Refer the following example:

Cause For Late Coming	Occurrences	% Count	Cumulative %
Road Traffic	32	44	44
Work till Late Night	20	27	71
Personal Commitments	8	11	82
Not Feeling Good	6	8	90
Late Public Transportation	4	6	96
Rain or Snow	73	100	100

Step 6

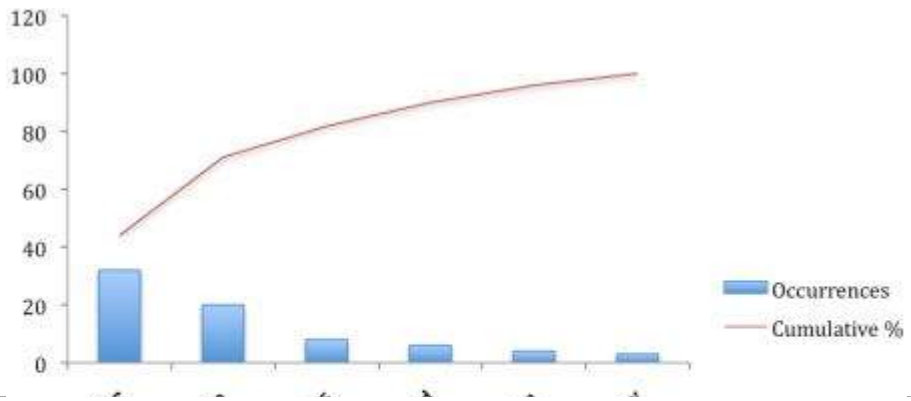
Create a bar chart. The list items should be displayed along the 'Y' axis from highest to the lowest. Left vertical axis should be the measure that you selected.

In our example, it should be the number of occurrences. Select the right vertical axis as the cumulative percentage. Each item should have a bar.

Step 7

Now, draw a line graph for cumulative percentages. The first point of the line should be on the top of the first bar. You can use spreadsheet software such as Microsoft Excel for this step.

It offers many tools for creating and analyzing graphs. Now, you should have something like this.



Step 8

Analyze your chart. You now need to identify the items that appear to have the most impact. Identify the breakpoint *arapidchange* in the graph *refertheredcircle*.

If there is no breakpoint, account the causes/items that have 50% or more impact. In our example, there is a visible breakpoint.

There are two causes before the breakpoint, Road traffic and Work till Late Night. Therefore, the two causes that have the most affect to our problem are Road Traffic and Work till Late Night.

Conclusion

Pareto charts can be really useful when used in the proper context. This helps the management to prioritize tasks, risks, activities and causes.

Therefore, Pareto charts should be used as much as possible when it comes to day-to-day prioritization.

POWERFUL LEADERSHIP SKILLS

Introduction

Only the leaders with great leadership qualities have introduced good to the world. These leaders have developed powerful leadership skills over the time and eventually become visionaries. They inspire their subordinates and drive them towards achieving their dreams in life. Therefore, developing powerful leadership skills help you to become an effective leader and make a difference in other's lives.

Good leaders are good in getting the desired outcome at the end. They are good at inspiring people and getting their contribution with their full support.

The good leaders constantly raise the standards and expectations from the employees, so the employees continuously enhance themselves. Employees and others follow such great leaders willingly.

Seven Most Powerful Leadership Skills

Let's have a brief look at the most powerful leadership skills that matter the most in corporate world.

1. Lead by Example

This is the number one skill you should develop. When there is a huge team working under you, setting the examples is the best way to manage them.

If you do not adhere to your own rules, you may not be able to get those working for you to adhere to the rules. When it comes to leading by examples, it includes fairness, honesty, showing respect and professionalism.

2. No Politics and No Good Old Boys

The workplace should never be run by politics and the good old boys. This could be the main reason for demotivating the talented and enthusiastic employees.

In case, if you reward the people you prefer, this will demotivate the talent in the organization and they would leave at the end of the day. The remaining employees will be utterly frustrated and

company culture and productivity will never be the same.

3. Reward the Talent

Rewarding is a great way to enhance the employee satisfaction. A good leader identifies the talent in the employee and rewards appropriately. A good leader will use facts for assessing the employees for their performance rather than using perceptions for the same.

4. Be Accountable and Hold Other Accountable

Depending on the consequences of an event, there can be either negative or positive results. In a corporate environment, most of the time, people are reluctant to take the responsibility and be accountable when things go wrong.

If you are accountable for something, so be it. Show the employees that you are being responsible and send the message that you expect the same from them.

As a good leader, you should not tolerate poor performance and poor behaviour of your employees. Your tolerance may kill employee motivation. No employee will go an extra mile if they are to cover someone's work by doing that.

5. Performance Standards

Setting expectations and defining reasonable performance standards for the employees is one of the key leadership skills. The performance assessment and evaluation criteria for the employees should be transparent and it should allow the employees to find their way to success.

Standards are not only applicable for employee performance. You can set standards for many other aspects of the corporate environment. As an example, it could be how to behave in the office or how to write a quality document. Setting and practicing such high standards will enhance the careers of the employees as well as the organization in the long run.

6. Share Your Vision

Good leaders are visionaries. They have a vision for what they do. A powerful leadership skill is to share your vision with the rest of the employees.

This way, you make them aware of what you fundamentally believe in and there will be a lot of people, who are willing to help you. Eventually, you will be able to enhance their lives and make them visionaries as well.

7. Keep an Open Door Policy

Keeping an open door policy is a real skill for a great leader. Although many companies claim that they practice the open door policy, no one would really bother to escalate information through the open door.

In order to have a real open door policy running, the leader should first practice the policy and show the rest of the staff that information flow has no barriers.

Conclusion

Powerful leadership skills are the best way for you to achieve your professional and personal objectives. The power of leadership skills are noted and required when you climb the corporate ladder.

Without proper leadership skills, you may not be able to manage a large team and drive them to achieve the objectives. Therefore, start strengthening your leadership skills from now onwards and go through necessary trainings if required.

PROCESS BASED MANAGEMENT

Introduction

Process-based management is a management technique that aligns the vision, mission and core value systems of a business when formulating corporate strategy.

It helps define the policies that govern the operations of the company, in question; whilst ensuring that the company is not just functioning on a platform of efficiency alone, but one of effectiveness, too.

As process-based management commences from the strategic sphere, the direction of the projects undertaken remain unfaltering, unlike in the event of goals formulated at a tactical level, where some projects tend to veer off course. Working towards a common goal helps achieve harmony across different work groups and departments.

However, it must be re-iterated that strategic support alone is inadequate to make the philosophy of process based management, a success; and that the middle management and employees too, need to recognize their part in the process and take ownership of it for optimal results.

The Six Stages in Process-Based Management

1 Defining the process

Process needs to be clearly identified and documented if it to yield any clarity.

Departmental documentation, customer-based agreements, purchasing manuals and process flow charts would all help in documenting the aforementioned process.

The input that is required for the process to be operational, the expected output of the process and the people or departments responsible for each constituent part of the process should be identified so that ownership and accountability are not compromised.

2 Establishing measures to evaluate the process

Process performance needs to be measured, if the efficacy, quality and timelines are to be monitored and improved upon.

Ideally, the metrics selected should be quantifiable, so that clarity is retained throughout. However, this may not always be possible, but comparative data and relevant benchmarks can always be obtained for relevant analysis.

3 Analyzing process performance

A variety of tools are available to analyze process performance with ease.

Graphical representations, bar charts, pie charts, variance analysis, gap analysis and cause-and-effect analysis being some of the most popular.

4 Analyzing process stability and setting new objectives if required

Under this phase of process-based management, compliance audits would help in analyzing process stability.

If it is found to be wanting, new goals need to be set and these should be aligned to the company's strategic direction.

5 Planning improvements

Process improvements should be planned in concurrence with the vision of the organization, its mission statement and its culture.

Sufficient resources should be allocated and an effective team should be in place if the proposed changes are to be successful.

6 Implementation of improvements

This is where each of the planned improvements come to life from its former paper-based draft.

Training can be conducted if and when required and the support of staff should be garnered wherever possible.

Thereafter, regular monitoring and continuous improvements need to be facilitated if the organization is to be one of world class standing.

Identifying a process-based organization

A process-based organization would have a few inherent characteristics that make it instantly recognizable.

For instance, such a company would view the business as a collection of processes, have strategic plans that drive the processes with commitment from the top management downwards, and such processes would be aligned to the goals and key business outcomes of the organization.

Standardization of processes, high dependence on data accuracy and the continuous quest for sustainable improvements are further hallmarks of a process-based organization.

Advantages of process-based management

The benefits of adopting process-based management are many.

Improvements in present processes increase in value-adding activities, reduction of costs and alignment to the strategic vision of the organization are its most sought after benefits.

It also facilitates modern cost allocation techniques such as activity based costing. Process-based management helps the system conform to certain national and international standards and to the requirements of reputed regulatory bodies.

Conclusion

Process-based management is an invaluable tool in customer satisfaction and retention, as it identifies key processes that have stakeholder interests and satisfaction at heart.

As many, a savvy manager at the higher echelons have come to realize the vision of a company is less likely to change over time, as opposed to goals and procedures used to achieve this vision.

Therefore process-based management necessitates managers to evaluate existing processes and take steps to adjust the structure and function of the organization in question, so that maximum efficiency can be thus derived.

Variable factors such as changes in customer expectations, fluctuations in the general economy and the necessity of developing better product lines will result in more innovative workforce who takes ownership of tasks and initiates better performance in their related field of expertise.

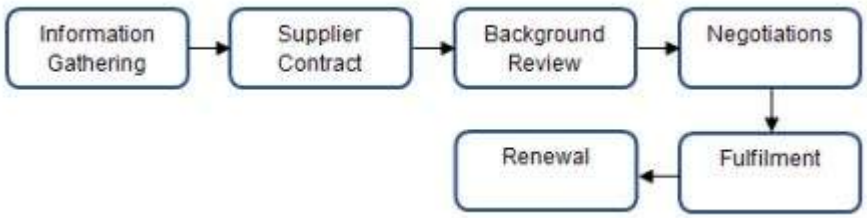
PROCUREMENT DOCUMENTS

Introduction

In order to understand procurement documents, it is important to understand the term *Procurement Management*.

Procurement is the purchase of goods and services at the best possible price to meet a purchaser's demand in terms of quantity, quality, dimensions and site.

The procurement cycle in businesses work, which follows the below steps:



- **Information Gathering -** A potential customer first researches suppliers, who satisfy requirements for the product needed.
- **Supplier Contact -** When a prospective supplier has been identified, the customer requests for quotations, proposals, information and tender. This may be done through advertisements or through direct contact with the supplier.
- **Background Review -** The customer now examines references for the goods/services concerned and may also consider samples of the goods/services or undertake trials.
- **Negotiation -** Next the negotiations regarding price, availability and customization options are undertaken. The contract regarding the purchase of the goods or services is completed.
- **Fulfilment -** Based on the contract signed, the purchased goods or services are shipped and delivered. Payment is also completed at this stage. Additional training or installation of the product may also be provided.
- **Renewal -** Once the goods or services are consumed or disposed of and the contract has expired, the product or service needs to be re-ordered. The customer now decides whether to continue with the same supplier or look for a new one.

Documents involved in the procurement cycle are called procurement documents. Procurement documents are an integral part of the early stages of project initiation.

The purpose of procurement documents serves an important aspect of the organizational element in the project process. It refers to the input and output mechanisms and tools that are put in place during the process of bidding and submitting project proposals and the facets of work that make up a project.

In a nutshell, procurement documents are the contractual relationship between the customer and the supplier of goods or services.

Examples of Procurement Documents

Some examples of what constitutes procurement documents include the buyer's commencement to bid and the summons by the financially responsible party for concessions.

In addition, requests for information between two parties and requests for quotations, and proposals and seller's response are also parts of procurement documents.

Basically procurement documents comprise of all documents that serve as invitations to tender, solicit tender offers and establish the terms and conditions of a contract.

Types of Procurement Documents

A few types of procurement documents are:

- **RFP -** A request for proposal is an early stage in a procurement process issuing an invitation for suppliers, often through a bidding process, to submit a proposal on a specific commodity or service.
- **RFI -** A request for information RFI is a proposal requested from a potential seller or a service provider to determine what products and services are potentially available in the marketplace to meet a buyer's needs and to know the capability of a seller in terms of offerings and strengths of the seller.
- **RFQ -** A request for quotation RFQ is used when discussions with bidders are not required $mainlywhenthespecificationsofaproductorservicearealreadyknown$ and when price is the main or only factor in selecting the successful bidder.
- **Solicitations:** These are invitations of bids, requests for quotations and proposals. These may serve as a binding contract.
- **Offers -** This type of procurement documents are bids, proposals and quotes made by potential suppliers to prospective clients.
- **Contracts -** Contracts refer to the final signed agreements between clients and suppliers.

- **Amendments/Modifications -** This refers to any changes in solicitations, offers and contracts. Amendments/Modifications have to be in the form of a written document.

Structure of a Procurement Document

Most procurement documents adopt a set structure. This is because it simplifies the documentation process and also allows it to be computerized.

Computerization allows for efficiency and effectiveness in the procurement process. In general, procurement documents have the following attributes:

- Requires potential bidders to submit all particulars for the employer to evaluate the bidder.
- All submissions to be set out in a clear and honest manner to ensure that the short-list criterion is unambiguous.
- Clear definition of the responsibilities, rights and commitments of both parties in the contract.
- Clear definition of the nature and quality of the goods or services to be provided.
- Provisions without any prejudice to the interests of either party.
- Clear and easy to understand language.

Commonly Encountered Procurement Documents

- **Engineering and Construction Work**
    - Minor/Low Risk Contracts: In this type of contract, services are required by an organization for a short period and the work is usually repetitive. Hence, this type of contract does not require high-end management techniques.
    - Major/High Risk Contracts: Here, the type of work required is of a more difficult nature and here the implication of sophisticated management techniques is required.
- **Services**
    - Professional - This requires more knowledge-based expertise and this requires managers, who are willing to put more time and effort into seeking research in order to satisfy the customer's criteria.
    - Facilities - More often than not, in this type of service the work outsourced is the maintenance or operation of an existing structure or system.
- **Supplies**
    - Local/Simple Purchases - Goods are more readily available and hence does not require management of the buying and delivery process.
    - International/Complex Purchases: In this case, goods need to be bought from other countries. A manager's task is more cumbersome and a management process is required to purchase and delivery. In addition, the manager needs to look into cross-border formalities.

Conclusion

In most organizations, the procurement department is one of the busiest. Managers need to purchase goods or services required for the smooth running of their organization.

For example, in a hospital, a procurement manager needs to purchase medicines and surgical instruments among others. These goods and services need to be purchased at the lowest possible cost without any deficit in quality.

The documentation that passes between the procurement manager of an organization and a supplier are the procurement documents.

PROCUREMENT MANAGEMENT

Introduction

Today, different organizations employ various management techniques to carry out the efficient functioning of their departments. Procurement management is one such form of management, where goods and services are acquired from a different organization or firm.

All organizations deal with this form of management at some point in the life of their businesses. It is in the way the procurement is carried out and the planning of the process that will ensure the things run smoothly.

But with many other management techniques in use, is there any special reason to use this particular form of management to acquire goods and services? Yes, this is one of the frequent questions asked regarding procurement management.

Procurement management is known to help an organization to save much of the money spent when purchasing goods and services from outside. It also has several other advantages.

How Does Procurement Management Works?

Following are the four main working areas of concerns when it comes to procurement management. The following points should be considered whenever procurement process is involved:

- Not all goods and services that a business requires need to be purchased from outside. It is for this reason that it is very essential to weigh the pros and cons of purchasing or renting these goods and services from outside.

  You would need to ask yourself whether it would in the long run be cost-effective and whether it is absolutely necessary.

- You would need to have a good idea of what you exactly require and then go on to consider various options and alternatives. Although there may be several suppliers, who provide the same goods and services, careful research would show you whom of these suppliers will give you the best deal for your organization.

  You can definitely call for some kind of bidding for your requirement by these vendors and use a selection criterion to select the best provider.

- The next step typically would be to call for bids. During this stage, the different suppliers will provide you with quotes.

  This stage is similar to that of choosing projects, as you would need to consider different criteria, apart from just the cost, to finally decide on which supplier you would want to go with.

- After the evaluation process, you would be able to select the best supplier. You would then need to move on to the step of discussing what should go into the contract. Remember to mention all financing terms how you wish to make the payments, and so on, so as to prevent any confusion arising later on, as this contract will be binding.

  Always remember that it is of utmost importance to maintain a good relationship with the supplier. This includes coming up with an agreement that both would find satisfactory. This helps the sustainability of your business as well as the supplier's business.

These four simple steps would help you acquire your goods easily and quickly without much hassle, but always requires careful consideration at each stage.

Making the Process Work Efficiently

In order to ensure that everything goes well through to the end, you would have to keep track of the progress of the procurement. This would mean that you should keep checking on the suppliers in order to ensure that they are abiding by the terms of the contract and will be able to supply you with the goods and services by the deadline.

Should there be any discrepancies or any issues, you should always let the supplier know by means of the method of communication decided on at the time of making the contract.

The organization must always be willing and open to change. This is in respect of all changes required in order to ensure the efficiency of the process. These changes could be in the form of technological advancements and even changes to the workforce, among other changes.

In terms of technology, any new equipment and machinery required to handle these goods may need to be purchased.

Similarly, with regard to the workforce, you would need to employ workers, who are highly skilled and trained when it comes to dealing directly with suppliers.

It is always best for an organization to have different teams within who are specialized in different fields. This would make procurement management even easier. Each team could then deal with the relevant areas of buying and will also have the expertise required. For example, those who have experience buying machinery may not have the same skill when it comes to getting particular services from another organization.

Conclusion

It should be kept in mind, however, that this procurement management system must run efficiently and smoothly for all benefits to be reaped. The key to this would therefore be an efficient system as well as the right supplier and resources.

For the purpose of procurement management, there should be a team of highly trained individuals, if procurement management plays a key role.

As an example, a hospital should have a dedicated procurement team and should employ strong procurement management techniques and tools.

PROJECT ACTIVITY DIAGRAM

Introduction

When it comes to a project, the entire project is divided into many interdependent tasks. In this set of tasks, the sequence or the order of the tasks is quite important.

If the sequence is wrong, the end result of the project might not be what the management expected.

Some tasks in the projects can safely be performed parallel to other tasks. In a project activity diagram, the sequence of the tasks is simply illustrated.

There are many tools that can be used for drawing project activity diagrams. Microsoft Project is one of the most popular software for this type of work.

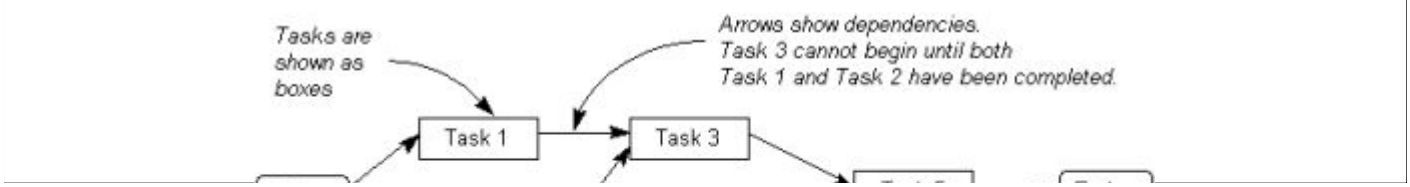
In addition to that, Microsoft Vision *forWindows* and Omni Graffle *forMac* can be used to draw activity diagrams.

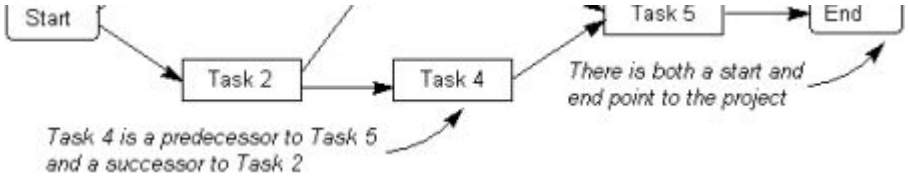
The Workflow

Have you seen process flow diagrams? If yes, then activity diagrams takes the same shape. Usually there are two main shapes in activity diagrams, boxes and arrows.

Boxes of the activity diagram indicate the tasks and the arrows show the relationships. Usually, the relationships are the sequences that take place in the activities.

Following is an example of activity diagram with tasks in boxes and relationship represented by arrows.

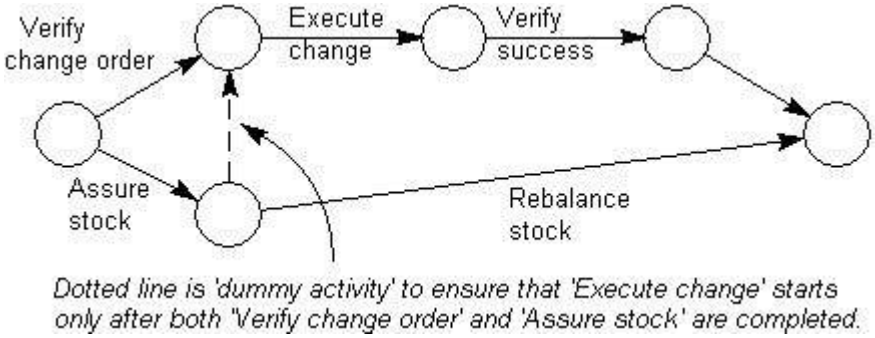




This type of activity diagram is also known as *activity-on-node* diagram. This is due to the fact that all activities *tasks* are shown on the nodes *boxes*.

Alternatively, there is another way of presenting an activity diagram. This is called *activity-on-arrow* diagram. In this diagram, activities *tasks* are presented by the arrows.

Compared to *activity-on-node* diagrams, *activity-on-arrow* diagrams introduce a little confusion. Therefore, in most instances, people often use *activity-on-nodes* diagrams. Following is an *activity-on-arrow* diagram:



How to Draw Activity Diagram?

Creating an activity diagram is easy. You can use a paper-based material such as a post it note or software for this purpose. Regardless of the medium used, the process of creating the activity diagram remains the same.

Following are main steps involved in creating an activity diagram:

Step 1

First of all, identify the tasks in the project. You can use WBS *WorkBreakdownStructure* for this purpose and there is no need to repeat the same.

Just use the same tasks breakdown for the activity diagram as well. If you use software for creating the activity diagram *whichisrecommended*, create a box for each activity.

Illustrate all boxes in the same size in order to avoid any confusion. Make sure all your tasks have the same granularity.

Step 2

You can add more information to the task boxes, such as who is doing the task and the timeframes. You can add this information inside the box or can add it somewhere near the box.

Step 3

Now, arrange the boxes in the sequence that they are performed during the project execution. The early tasks will be at the left hand side and the tasks performed at the later part of the project execution will be at the right hand side. The tasks that can be performed in parallel should be kept parallel to each other *vertically*.

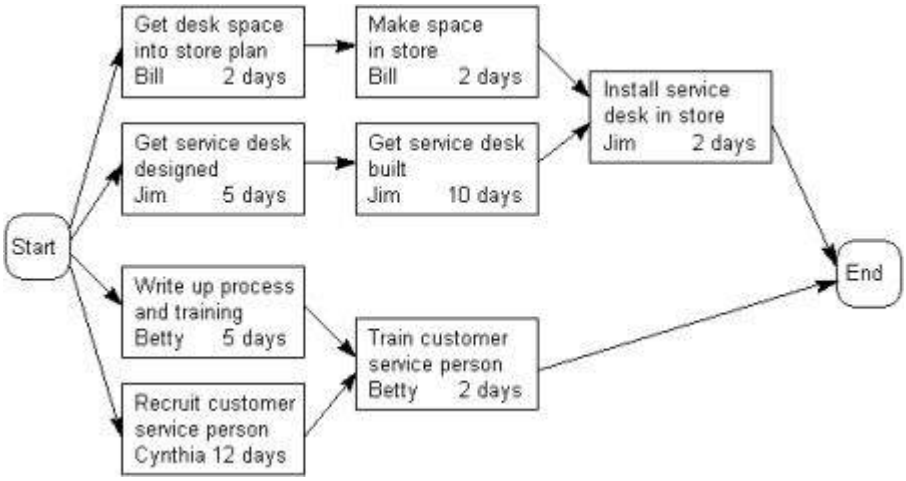
You may have to adjust the sequence a number of times until you get it right. This is why software is an easy tool for creating activity diagrams.

Step 4

Now, use arrows to join task boxes. These arrows will show the sequence of the tasks. Sometimes,

a 'start' and an 'end' box can be added to clearly present the start and the end of the project.

To understand what we have done in the above four steps, please refer to the following activity diagram:



Conclusion

Activity diagrams can be used for illustrating the sequence of project tasks. These diagrams can be created with a minimum effort and gives you a clear understanding of interdependent tasks.

In addition, the activity diagram is an input for the critical path method.

PROJECT CHARTER

Introduction

Project Charter refers to a statement of objectives in a project. This statement also sets out detailed project goals, roles and responsibilities, identifies the main stakeholders, and the level of authority of a project manager.

It acts as a guideline for future projects as well as an important material in the organization's knowledge management system.

The project charter is a short document that would consist of new offering request or a request for proposal. This document is a part of the project management process, which is required by Initiative for Policy Dialogue IPD and Customer Relationship Management CRM.

The Role of Project Charter

Following are the roles of a Project Charter:

- It documents the reasons for undertaking the project.
- Outlines the objectives and the constraints faced by the project.
- Provides solutions to the problem in hand.
- Identifies the main stakeholders of the project.

Benefits of Project Charter

Following are the prominent benefits of Project Charter for a project:

- It improves and paves way for good customer relationships.
- Project Charter also works as a tool that improves project management processes.
- Regional and headquarter communications can also be improved to a greater extent.
- By having a project charter, project sponsorship can also be gained.

- Project Charter recognizes senior management roles.
- Allows progression, which is aimed at attaining industry best practices.

Elements in Project Charter

Since project charter is a project planning tool, which is aimed at resolving an issue or an opportunity, the below elements are essential for a good charter project.

For an effective charter project, it needs to address these key elements:

- Identity of the project.
- Time: the start date and the deadline for the project.
- People involved in the project.
- Outlined objectives and set targets.
- The reason for a project charter to be carried out, often referred to as 'business case'.
- Detailed description of a problem or an opportunity.
- The return expected from the project.
- Results that could be expected in terms of performance.
- The expected date that the objectives is to be achieved.
- Clearly defined roles and responsibilities of the participants involved.
- Requirement of resources that will be needed for the objectives to be achieved.
- Barriers and the risks involved with the project.
- Informed and effective communication plan.

Out of all above elements, there are three most important and essential elements that need further elaboration.

Business Case

This outlines the need for a project charter to take place. A business case should set out the benefits gained from carrying out a project charter. Benefits need not only be in terms of finance such as revenue, cost reduction, etc., but also the benefit that the customer receives.

Following are the characteristics of a good business case:

- The reasons of undertaking the project.
- The benefits gained from undertaking the project now.
- The consequences of not doing the project.
- The factors that would conclude that it fits the business goals.

Project Scope

As the name denotes, it refers to the scope that the project will give the business if they undertake the project.

Before doing a project, the following concerns need to be addressed:

- The within scope and out of scope needs to be considered.
- The process that each team will focus upon.
- The start and end points for a process.

- Availability of resources.
- Constraints under which the team will work.
- Time limitations .
- The impact on the normal workload if the project is to be undertaken.

The Need for a Good Communication Plan

The need for a good communication plan is at its utmost necessity when it comes to planning a project. Project managers need to work on building a good communication plan which will help in meeting the overall objectives of a Project Charter.

When creating a communication plan, the project manager needs to take the following into consideration:

- **Who -** responsibility of each individuals participating in the project.
- **What -** the motive and the reason for communication plan.
- **Where -** location where the receiver could find information.
- **When -** the duration and the frequency of the communication plan.
- **How -** the mechanism which is used to facilitate the communication.
- **Whom -** The receivers of the communication.

Conclusion

The project charter is not only a tool that is used for planning projects but also a communication mechanism that acts as a reference. A well-planned project with an effective communication plan will definitely bring in success for the project undertaken at hand.

Therefore, the Project Charter should be one of the frequently referred documents in a project and the entire project team needs to be aware of the content of the Project Charter. This is a key element for a successful project.

PROJECT CONTRACT TYPES

Introduction

In the world of business, contracts are used for establishing business deals and partnerships. The parties involved in the business engagement decide the type of the contract.

Usually, the type of the contract used for the business engagement varies depending on the type of the work and the nature of the industry.

The contract is simply an elaborated agreement between two or more parties. One or more parties may provide products or services in return to something provided by other parties *client*.

The contract type is the key relationship between the parties engaged in the business and the contract type determines the project risk.

Let' have a look at most widely used contract types.

Fixed Price *LumpSum*

This is the simplest type of all contracts. The terms are quite straightforward and easy to understand.

To put in simple, the service provider agrees to provide a defined service for a specific period of time and the client agrees to pay a fixed amount of money for the service.

This contract type may define various milestones for the deliveries as well as KPIs

KeyPerformanceIndicators. In addition, the contractor may have an acceptance criteria defined for the milestones and the final delivery.

The main advantages of this type of contract is that the contractor knows the total project cost before the project commences.

Unit Price

In this model, the project is divided into units and the charge for each unit is defined. This contract type can be introduced as one of the more flexible methods compared to fixed price contract.

Usually, the owner *contractor/client* of the project decides on the estimates and asks the bidders to bid of each element of the project.

After bidding, depending on the bid amounts and the qualifications of bidders, the entire project may be given to the same service provider or different units may be allocated to different service providers.

This is a good approach when different project units require different expertise to complete.

Cost Plus

In this contract model, the services provider is reimbursed for their machinery, labour and other costs, in addition to contractor paying an agreed fee to the service provider.

In this method, the service provider should offer a detailed schedule and the resource allocation for the project. Apart from that, all the costs should be properly listed and should be reported to the contractor periodically.

The payments may be paid by the contractor at a certain frequency *suchasmonthly*, *quarterly* or by the end of milestones.

Incentive

Incentive contracts are usually used when there is some level of uncertainty in the project cost. Although there are nearly-accurate estimations, the technological challenges may impact on the overall resources as well as the effort.

This type of contract is common for the projects involving pilot programs or the project that harness new technologies.

There are three cost factors in an Incentive contract; target price, target profit and the maximum cost.

The main mechanism of Incentive contract is to divide any target price overrun between the client and the service provider in order to minimize the business risks for both parties.

Retainer **Time and Material - T&M**

This is one of the most beautiful engagements that can get into by two or more parties. This engagement type is the most risk-free type where the time and material used for the project are priced.

The contractor only requires knowing the time and material for the project in order to make the payments. This type of contract has short delivery cycles, and for each cycle, separate estimates are sent of the contractor.

Once the contractor signs off the estimate and Statement of Work *SOW*, the service provider can start work.

Unlike most of the other contract types, retainer contracts are mostly used for long-term business engagements.

Percentage of Construction Fee

This type of contracts is used for engineering projects. Based on the resources and material

required, the cost for the construction is estimated.

Then, the client contracts a service provider and pays a percentage of the cost of the project as the fee for the service provider.

As an example, take the scenario of constructing a house. Assume that the estimate comes up to $230,000.

When this project is contracted to a service provider, the client may agree to pay 30% of the total cost as the construction fee which comes up to $69,000.

Conclusion

Selecting the contract type is the most crucial step of establishing a business agreement with another party. This step determines the possible engagement risks.

Therefore, companies should get into contracts where there is a minimum risk for their business. It is always a good idea to engage in fixed bids *fixedpriced* whenever the project is short-termed and predictable.

If the project nature is exploratory, it is always best to adopt retainer or cost plus contract types.

PROJECT COST CONTROL

Introduction

Almost all the projects need to be guided right throughout in order to receive the required and expected output at the end of the project. It is the team that is responsible for the project and most importantly the project manager that needs to be able to carry out effective controlling of the costs. There are, however, several techniques that can be used for this purpose.

In addition to the project goals that the project manager has to oversee, the control of various costs is also a very important task for any project. Project management would not be effective at all if a project manager fails in this respect, as it would essentially determine whether or not your organization would make a profit or loss.

Cost Control Techniques

Following are some of the valuable and essential techniques used for efficient project cost control:

1 - Planning the Project Budget

You would need to ideally make a budget at the beginning of the planning session with regard to the project at hand. It is this budget that you would have to help you for all payments that need to be made and costs that you will incur during the project life cycle. The making of this budget therefore entails a lot of research and critical thinking.

Like any other budget, you would always have to leave room for adjustments as the costs may not remain the same right through the period of the project. Adhering to the project budget at all times is key to the profit from project.

2 - Keeping a Track of Costs

Keeping track of all actual costs is also equally important as any other technique. Here, it is best to prepare a budget that is time-based. This will help you keep track of the budget of a project in each of its phases. The actual costs will have to be tracked against the periodic targets that have been set out in the budget. These targets could be on a monthly or weekly basis or even yearly if the project will go on for long.

This is much easier to work with rather than having one complete budget for the entire period of the project. If any new work is required to be carried out, you would need to make estimations for this and see if it can be accommodated with the final amount in the budget. If not, you may have to work on necessary arrangements for 'Change Requests', where the client will pay for the new work or the changes.

3 - Effective Time Management

Another effective technique would be effective time management. Although this technique does apply to various management areas, it is very important with regard to project cost control.

The reason for this is that the cost of your project could keep rising if you are unable to meet the project deadlines; the longer the project is dragged on for, the higher the costs incurred which effectively means that the budget will be exceeded.

The project manager would need to constantly remind his/her team of the important deadlines of the project in order to ensure that work is completed on time.

4 - Project Change Control

Project change control is yet another vital technique. Change control systems are essential to take into account any potential changes that could occur during the course of the project.

This is due to the fact that each change to the scope of the project will have an impact on the deadlines of the deliverables, so the changes may increase project cost by increasing the effort needed for the project.

5 - Use of Earned Value

Similarly, in order to identify the value of the work that has been carried out thus far, it is very helpful to use the accounting technique commonly known as 'Earned Value'.

This is particularly helpful for large projects and will help you make any quick changes that are absolutely essential for the success of the project.

The Additional Steps for Project Cost Control

It is advisable to constantly review the budget as well as the trends and other financial information. Providing reports on project financials at regular intervals will also help keep track of the progress of the project.

This will ensure that overspending does not take place, as you would not want to find out when it is too late. The earlier the problem is found, the more easily and quickly it could be remedied.

All documents should also be provided at regular intervals to auditors, who would also be able to point out to you any potential cost risks.

Conclusion

Simply coming up with a project budget is not adequate during your project planning sessions. You and your team would have to keep a watchful eye on whether the costs remain close to the figures in the initial budget.

You need to always keep in mind the risks that come with cost escalation and need to prevent this as best as you can. For this, use the above techniques explained and constantly monitor the project costs.

PROJECT KICK-OFF MEETING

Introduction

A project kick-off meeting is the best opportunity for a project manager to energize his or her team. During this meeting, the project management can establish a sense of common goal and start understanding each individual.

Although a project kick-off meeting appears to be a simple meeting with all the stakeholders of the project, a successful project kick-off meeting requires proper planning.

The following steps are some of the important preparation points for a successful project kick-off meeting. These steps help you to stay focused, establish and demonstrate leadership, and help integrating individual members into the project team.

The Agenda

A strong and clear agenda is a must for a project kick-off meeting. If you have no clue of what the agenda should be, ask your experienced subordinates or get hold of some of the agendas used for earlier kick-off meetings by others.

The agenda usually includes purpose of the project, deliverables and goals, key success factors of the project, communication plan, and the project plan.

In advance to the project kick-off meeting, make sure that you circulate the meeting agenda to all the participants.

This way, all the participants are aware of the structure and what to achieve at the end of the meeting.

Getting Started

When the meeting starts, the project manager should take charge of the meeting. Next, all the participants should be welcomed and a round of self-introduction should take place.

Although you have already shared the meeting agenda with the participants, briefly take them through the agenda while giving a brief introduction to each item in the agenda.

Pay more attention towards introducing the project roles and emphasize the reasons why the term members were assigned to respective roles.

If there are people playing stretched roles, acknowledge about it. When you do all these things, do not go into detail. The purpose of this meeting is to take everyone on to the same platform.

Project Presentation

Once the tone is set, present the agenda in a structured manner. First of all, talk about the project assumptions and how you developed the project plan.

Present your reasoning behind the plan and convey the message that you are open to suggestions when the project progresses. Go through each task in the project plan and elaborate sufficiently.

Emphasize the fact that the project plan and the schedule are still at the initial stage and that you are expecting everyone's assistance for making it complete.

Identify and acknowledge the potential bottlenecks or challenging tasks in the project schedule.

Setting the Expectations

Decide on a convenient time to hold regular meetings to talk about project progress. Emphasize the need of everyone's participation for the regular meetings.

Teamwork is one of the most important expectations to be set. You need to elaborate more on teamwork and plan some teamwork activities just after the project kick-off.

Talk about the time sensitive nature of the project and how the leaves are granted during the project period.

If the project requires working long hours, letting them know in advance and showing them how you can help them to maintain the work-life balance is a good strategy.

During the meeting, empower the team members to carry out certain tasks and make them responsible.

Communication Plan

Communication is one of the main aspects of a project. Therefore, the project kick-off meeting should emphasize more on the communication plan for the project.

This usually includes the meetings and escalation paths. Following are some of the meetings that take place during the project life cycle:

- Weekly status meeting
- Project plan updates
- Task and activity planning sessions
- Management updates

In addition, you can emphasize on the other communications channels such as e-mail communications, forums, etc.

Feedback and Closure

At the end of the kick-off meeting, open up a Q&A session that allows the team members to freely express themselves.

If the time is not enough to facilitate all the team members, ask them to send their queries and feedback via e-mail. Once you have a look at those e-mails, you can set up another discussion to address those.

Never drag a planned meeting too much, since it could be a bad example. Before everyone leaves, summarize the meeting and call out the action items and next steps.

Conclusion

To conclude, there are four main areas that should be emphasized about holding project kick-off meetings.

- Be prepared for the kick-off meeting. Demonstrate your ability to organize and lead.
- Empower your team members. Assign them responsibilities.
- Develop and nurture teamwork.
- Demonstrate your leadership qualities.

PROJECT LESSONS LEARNED

Introduction

Projects vary in terms of purpose, cost, magnitude and the timelines involved.

Yet, they all have common features and the lessons learned from one project can easily be incorporated in another, circumstances permitting.

Some of the experience thus gleaned is revealed below. This is by no means an extensive list of all the project lessons learned, but a few of the most relevant, are stated herewith:

20 Useful Project Lessons Learned

- The success of a project is largely dependent on the skills and strengths of the people involved. Therefore, a project needs to have a dedicated, talented set of individuals working towards a common goal.
- Together with leadership skills, the project manager needs to be aware of the strengths and weaknesses of his/her staff, so that the talents are harnessed and the shortfalls downplayed for the benefit of the project.
- A champion team and a team of champions are indeed different. The former would lead to a successful project whilst the latter would yield to a conflict of egos, each chasing an individual goal.
- It pays to know who the decision makers are. Such individuals may not always be readily visible, but they will be calling the shots, so developing a strong line of communication with such individuals will reap benefits in the long run.

- If you have the knowledge and experience to make a decision, then you should go ahead and so, without expecting top managers to spoon feed you at every turn.
- Procrastination does not work. After assimilating the relevant information, decisions need to be made. Wrong decisions can be salvaged, if discovered early; but right decisions cannot be postponed. So, Carpe Diem, *seizetheday*, as advocated by the popular maxim.
- When things go wrong, as they invariably will; excuses will not work. Find an alternative course of action or remedial propositions instead. Allocating blame only causes dissention and hostility, searching for solutions will bring the team together.
- Be pro-active in your approach. Reactivity is just not good enough.
- Be open to change. Sometimes, you may find that the things you knew along may not be correct at this given time, under these specific conditions.
- Know what resources are available. Not just those under your purview but those which are at the discretion of other teams. Sometimes, others may be happy to help. After all, the *favor bank* concept which is colloquially referred to as the 'you scratch my back and I will scratch yours' philosophy, is apparent in the business world too.
- Paperwork and documentation are necessary for reporting purposes. But when making decisions, placing too much reliance on data which may have changed within a surprisingly short timeframe pays few dividends, especially in an unpredictable environment.
- Know your customer and know the objectives of the project at hand. If any significant changes need to be made, do so, but remember you need to consult the customer first.
- Respect your leader and his/her decisions. Sometimes, you may not agree with these. That is fine. Voice your objections, especially if they are reasonable. But once an action has been decided upon, even if it is contrary to your idea of what should have been done, support it, and try to make it a success.
- Take account of all the known facts. Try to make sense of it, but don't blindly force-fit scenarios into a pre-established mould. Such scenarios may have been right before, and will, in all likelihood, be right once again, but maybe just not in this case.
- Do not be afraid of taking calculated risks. After all, as the adage goes, *a ship is safe in the harbor, but that is not what ships were built for*.
- When things go wrong, know who you can turn to for help.
- Always disclose information to those, who will need it. This is not the time or place for obtaining an edge over another by keeping crucial data close to your chest. People, who know what is expected of them and have the means of doing so, will play a pivotal role in making the project a success.
- Use modern technology and time tested management skills to your advantage.
- Good communication is that which will stop mistakes from becoming failures. Mistakes happen and recovery is always possible. But failure is a dead-end street.
- Do not blindly rush into decisions. Careful thought needs to be given to the circumstances at hand prior to engaging in decision making. This will save time in the long run by minimizing the need to redo work.

Conclusion

Repetitive mistakes are the best avoided. Project lessons learned should be documented so that future team leaders can make use of the learning experience of others in order to avoid the same pitfalls themselves.

PROJECT MANAGEMENT METHODOLOGIES

Introduction

In order to achieve goals and planned results within a defined schedule and a budget, a manager uses a project. Regardless of which field or which trade, there are assortments of methodologies to help managers at every stage of a project from the initiation to implementation to the closure. In this tutorial, we will try to discuss the most commonly used project management methodologies.

A methodology is a model, which project managers employ for the design, planning, implementation and achievement of their project objectives. There are different project management methodologies to benefit different projects.

For example, there is a specific methodology, which NASA uses to build a space station while the Navy employs a different methodology to build submarines. Hence, there are different project management methodologies that cater to the needs of different projects spanned across different business domains.

Project Methodologies

Following are the most frequently used project management methodologies in the project management practice:

1 - Adaptive Project Framework

In this methodology, the project scope is a variable. Additionally, the time and the cost are constants for the project. Therefore, during the project execution, the project scope is adjusted in order to get the maximum business value from the project.

2 - Agile Software Development

Agile software development methodology is for a project that needs extreme agility in requirements. The key features of agile are its short-termed delivery cycles *sprints*, agile requirements, dynamic team culture, less restrictive project control and emphasis on real-time communication.

3 - Crystal Methods

In crystal method, the project processes are given a low priority. Instead of the processes, this method focuses more on team communication, team member skills, people and interaction. Crystal methods come under agile category.

4 - Dynamic Systems Development Model *DSDM*

This is the successor of Rapid Application Development *RAD* methodology. This is also a subset of agile software development methodology and boasts about the training and documents support this methodology has. This method emphasizes more on the active user involvement during the project life cycle.

5 - Extreme Programming *XP*

Lowering the cost of requirement changes is the main objective of extreme programming. XP emphasizes on fine scale feedback, continuous process, shared understanding and programmer welfare. In XP, there is no detailed requirements specification or software architecture built.

6 - Feature Driven Development *FDD*

This methodology is more focused on simple and well-defined processes, short iterative and feature driven delivery cycles. All the planning and execution in this project type take place based on the features.

7 - Information Technology Infrastructure Library *ITIL*

This methodology is a collection of best practices in project management. ITIL covers a broad aspect of project management which starts from the organizational management level.

8 - Joint Application Development *JAD*

Involving the client from the early stages with the project tasks is emphasized by this methodology. The project team and the client hold JAD sessions collaboratively in order to get the contribution from the client. These JAD sessions take place during the entire project life cycle.

9 - Lean Development *LD*

Lean development focuses on developing change-tolerance software. In this method, satisfying the customer comes as the highest priority. The team is motivated to provide the highest value for the money paid by the customer.

10 - PRINCE2

PRINCE2 takes a process-based approach to project management. This methodology is based on eight high-level processes.

11 - Rapid Application Development *RAD*

This methodology focuses on developing products faster with higher quality. When it comes to gathering requirements, it uses the workshop method. Prototyping is used for getting clear requirements and re-use the software components to accelerate the development timelines.

In this method, all types of internal communications are considered informal.

12 - Rational Unified Process *RUP*

RUP tries to capture all the positive aspects of modern software development methodologies and offer them in one package. This is one of the first project management methodologies that suggested an iterative approach to software development.

13 - Scrum

This is an agile methodology. The main goal of this methodology is to improve team productivity dramatically by removing every possible burden. Scrum projects are managed by a Scrum master.

14 - Spiral

Spiral methodology is the extended waterfall model with prototyping. This method is used instead of using the waterfall model for large projects.

15 - Systems Development Life Cycle *SDLC*

This is a conceptual model used in software development projects. In this method, there is a possibility of combining two or more project management methodologies for the best outcome. SDLC also heavily emphasizes on the use of documentation and has strict guidelines on it.

16 - Waterfall *Traditional*

This is the legacy model for software development projects. This methodology has been in practice for decades before the new methodologies were introduced. In this model, development lifecycle has fixed phases and linear timelines. This model is not capable of addressing the challenges in the modern software development domain.

Conclusion

Selecting the most suitable project management methodology could be a tricky task. When it comes to selecting an appropriate one, there are a few dozens of factors you should consider. Each project management methodology carries its own strengths and weaknesses.

Therefore, there is no good or bad methodology and what you should follow is the most suitable one for your project management requirements.

PROJECT MANAGEMENT OFFICE *PMO*

Introduction

When organizations grow, they establish different entities for governing respective practices.

The Project Management Office *PMO* is the entity created for governing the processes, practices, tools and other activities related to project management in an organization.

This office *team* defines and maintains the standards for project management in the organization.

Usually, the management of the organization assigns a team of experts in the field of project management in order to run the project management office.

The organization looks for qualifications such as PMI certifications and extensive experience is managing large projects when selecting people for the project management office.

Building a Project Management Office

Due to the complexity of present projects, the project management function should be a matured and streamlined practice.

Therefore, organizations look for better ways of managing the projects in order to maximize the profit margins. For this, organizations look into process optimization, productivity enhancement and building their bottom-line.

Since there are many parameters involved in the project management function *suchaspeople*, *technology*, *communicationandresources*, governing the project management function by the senior management can be risky.

Therefore, a project management office is the ideal solution for building and maintaining the project management practice as a capable function of the organization.

Implementing a project management office is as same as any other organizational change project. Therefore, it is approached with a strong and rigid methodology with a lot of experience.

There are a number of key steps involved in building a project management office and PMBOK *ProjectManagementBodyofKnowledge* can be a great reference for this purpose.

Is It an Overhead?

Some traditional organizations view the project management office as an overhead. This is mainly due to the fact that the organization is small enough where there is no explicit need for a project management office.

In such organizations, the general management can govern project management practice. For the rest of the organizations where there are large projects, a project management office is a lot more than an overhead.

At present, the world economy is at a recession. Therefore, a lot of companies look at cutting costs in order to retain in the corporate environment.

Among the ways of doing this, cutting down staff and closing down departments have become two popular options. In such cases, project management office has become an easy victim, as it does not add any figure to the bottom-line of the company.

Therefore, it has become a challenge for the project management offices to justify their work to the upper management.

The Advantages of an PMO

Project management is one of the key functions of an organization. Therefore, refining the processes related to project management could add a lot of value to the organization's bottom-line.

This is what exactly a successful project management office does.

Why Does PMO Fail?

Based on the historical statistics, only one-third of project management offices work and the rest do not work as expected.

This is one of the main concerns that senior management faces when deciding to build a project management office for an organization. The management is doubtful about the success of the project management office from the beginning.

One of the main reasons for project management office to fail is the lack of executive management support. In most cases, the executive management does not have enough knowledge on how to support and guide a project management office.

Secondly, incapability of the project management office causes failures. This is mainly due to the people and resources assigned to the project management office.

Conclusion

Project management office is one of the entities that will add value to large organizations in the long run. A project management office could be an overhead for smaller scale organizations and such establishment may end up as a failure.

A successful project management office can enhance the productivity of the project teams and cause a lot of cost savings. In addition to that, it can make the organization a more matured and capable entity.

PROJECT MANAGEMENT PROCESSES

Introduction

Project management is one of the critical processes of any project. This is due to the fact that project management is the core process that connects all other project activities and processes together.

When it comes to the activities of project management, there are plenty. However, these plenty of project management activities can be categorized into five main processes.

Let's have a look at the five main project management processes in detail.

1 - Project Initiation

Project initiation is the starting point of any project. In this process, all the activities related to winning a project takes place. Usually, the main activity of this phase is the pre-sale.

During the pre-sale period, the service provider proves the eligibility and ability of completing the project to the client and eventually wins the business. Then, it is the detailed requirements gathering which comes next.

During the requirements gathering activity, all the client requirements are gathered and analysed for implementation. In this activity, negotiations may take place to change certain requirements or remove certain requirements altogether.

Usually, project initiation process ends with requirements sign-off.

2 - Project Planning

Project planning is one of the main project management processes. If the project management team gets this step wrong, there could be heavy negative consequences during the next phases of the project.

Therefore, the project management team will have to pay detailed attention to this process of the project.

In this process, the project plan is derived in order to address the project requirements such as, requirements scope, budget and timelines. Once the project plan is derived, then the project schedule is developed.

Depending on the budget and the schedule, the resources are then allocated to the project. This phase is the most important phase when it comes to project cost and effort.

3 - Project Execution

After all paperwork is done, in this phase, the project management executes the project in order to achieve project objectives.

When it comes to execution, each member of the team carries out their own assignments within the given deadline for each activity. The detailed project schedule will be used for tracking the project progress.

During the project execution, there are many reporting activities to be done. The senior management of the company will require daily or weekly status updates on the project progress.

In addition to that, the client may also want to track the progress of the project. During the project execution, it is a must to track the effort and cost of the project in order to determine whether the project is progressing in the right direction or not.

In addition to reporting, there are multiple deliveries to be made during the project execution. Usually, project deliveries are not onetime deliveries made at the end of the project. Instead, the deliveries are scattered through out the project execution period and delivered upon agreed timelines.

4 - Control and Validation

During the project life cycle, the project activities should be thoroughly controlled and validated. The controlling can be mainly done by adhering to the initial protocols such as project plan, quality assurance test plan and communication plan for the project.

Sometimes, there can be instances that are not covered by such protocols. In such cases, the project manager should use adequate and necessary measurements in order to control such situations.

Validation is a supporting activity that runs from first day to the last day of a project. Each and every activity and delivery should have its own validation criteria in order to verify the successful outcome or the successful completion.

When it comes to project deliveries and requirements, a separate team called 'quality assurance team' will assist the project team for validation and verification functions.

5 - Closeout and Evaluation

Once all the project requirements are achieved, it is time to hand over the implemented system and closeout the project. If the project deliveries are in par with the acceptance criteria defined by the client, the project will be duly accepted and paid by the customer.

Once the project closeout takes place, it is time to evaluate the entire project. In this evaluation, the mistakes made by the project team will be identified and will take necessary steps to avoid them in the future projects.

During the project evaluation process, the service provider may notice that they haven't gained the expected margins for the project and may have exceeded the timelines planned at the beginning.

In such cases, the project is not a 100% success to the service provider. Therefore, such instances should be studied carefully and should take necessary actions to avoid in the future.

Conclusion

Project management is a responsible process. The project management process connects all other project activities together and creates the harmony in the project.

Therefore, the project management team should have a detailed understanding on all the project management processes and the tools that they can make use for each project management process.

PROJECT MANAGEMENT TOOLS

Introduction

Project management is one of the high-responsibility tasks in modern organizations. Project management is used in many types of projects ranging from software development to developing the next generation fighter aircrafts.

In order to execute a project successfully, the project manager or the project management team should be supported by a set of tools.

These tools can be specifically designed tools or regular productivity tools that can be adopted for project management work.

The use of such tools usually makes the project managers work easy as well as it standardizes the work and the routine of a project manager.

Following are some of those tools used by project managers in all domains:

Project Plan

All the projects that should be managed by a project manager should have a project plan. The project plan details many aspects of the project to be executed.

First of all, it details out the project scope. Then, it describes the approach or strategy used for addressing the project scope and project objectives.

The strategy is the core of the project plan. The strategy could vary depending on the project purpose and specific project requirements.

The resource allocation and delivery schedule are other two main components of the project plan. These detail each activity involved in the project as well as the information such as who executes them and when.

This is important information for the project manager as well as all the other stakeholders of the project.

Milestone Checklist

This is one of the best tools the project manager can use to determine whether he or she is on track in terms of the project progress.

The project manager does not have to use expensive software to track this. The project manager can use a simple Excel template to do this job.

The milestone checklist should be a live document that should be updated once or twice a week.

Gantt Chart

Gantt chart illustrates the project schedule and shows the project manager the interdependencies of each activity. Gantt charts are universally used for any type of project from construction to software development.

Although deriving a Gantt chart looks quite easy, it is one of the most complex tasks when the project is involved in hundreds of activities.

There are many ways you can create a Gantt chart. If the project is small and simple in nature, you can create your own Gantt chart in Excel or download an Excel template from the Internet.

If the project has a high financial value or high-risk exposure, then the project manager can use software tools such as MS Project.

Project Management Softwares

With the introduction of computer technology, there have been a number of software tools specifically developed for project management purpose. MS Project is one such tool that has won

the hearts of project managers all over the world.

MS Project can be used as a standalone tool for tracking project progress or it can be used for tracking complex projects distributed in many geographical areas and managed by a number of project managers.

There are many other software packages for project management in addition to MS Project. Most of these new additions are online portals for project management activities where the project members have access to project details and progress from anywhere.

Project Reviews

A comprehensive project review mechanism is a great tool for project management. More mature companies tend to have more strict and comprehensive project reviews as opposed to basic ones done by smaller organizations.

In project reviews, the project progress and the adherence to the process standards are mainly considered. Usually, project reviews are accompanied by project audits by a 3rd party *internalorexternal*.

The non-compliances and action items are then tracked in order to complete them.

Delivery Reviews

Delivery reviews make sure that the deliveries made by the project team meet the customer requirements and adhere to the general guidelines of quality.

Usually, a 3rd party team or supervisors *internal* conduct the delivery review and the main stakeholders of the project delivery do participate for this event.

The delivery review may decide to reject the delivery due to the quality standards and non-compliances.

Score Cards

When it comes to performance of the project team, a scorecard is the way of tracking it. Every project manager is responsible of accessing the performance of the team members and reporting it to the upper management and HR.

This information is then used for promotion purposes as well as human resource development. A comprehensive score card and performance assessment can place the team member in the correct position.

Conclusion

A project manager cannot execute his/her job without a proper set of tools. These tools do not have to be renowned software or something, but it can pretty well be simple and proven techniques to manage project work.

Having a solid set of project management tools always makes project managers' work pleasurable and productive.

PROJECT MANAGEMENT TRIANGLE

Introduction

The project management triangle is used by managers to analyze or understand the difficulties that may arise due to implementing and executing a project. All projects irrespective of their size will have many constraints.

Although there are many such project constraints, these should not be barriers for successful project execution and for the effective decision making.

There are three main interdependent constraints for every project; time, cost and scope. This is also known as Project Management Triangle.

Let's try to understand each of the element of project triangle and then how to face challenges related to each.

The Three Constraints

The three constraints in a project management triangle are time, cost and scope.

1 - Time

A project's activities can either take shorter or longer amount of time to complete. Completion of tasks depends on a number of factors such as the number of people working on the project, experience, skills, etc.

Time is a crucial factor which is uncontrollable. On the other hand, failure to meet the deadlines in a project can create adverse effects. Most often, the main reason for organizations to fail in terms of time is due to lack of resources.

2 - Cost

It's imperative for both the project manager and the organization to have an estimated cost when undertaking a project. Budgets will ensure that project is developed or implemented below a certain cost.

Sometimes, project managers have to allocate additional resources in order to meet the deadlines with a penalty of additional project costs.

3 - Scope

Scope looks at the outcome of the project undertaken. This consists of a list of deliverables, which need to be addressed by the project team.

A successful project manager will know to manage both the scope of the project and any change in scope which impacts time and cost.

Quality

Quality is not a part of the project management triangle, but it is the ultimate objective of every delivery. Hence, the project management triangle represents implies quality.

Many project managers are under the notion that 'high quality comes with high cost', which to some extent is true. By using low quality resources to accomplish project deadlines does not ensure success of the overall project.

Like with the scope, quality will also be an important deliverable for the project.

Six stages of Project Management

A project undergoes six stages during its life cycles and they are noted below:

- **Project Definition -** This refers to defining the objectives and the factors to be considered to make the project successful.
- **Project Initiation -** This refers to the resources as well as the planning before the project starts.

- **Project Planning -** Outlines the plan as to how the project should be executed. This is where project management triangle is essential. It looks at the time, cost and scope of the project.
- **Project Execution -** Undertaking work to deliver the outcome of the project.
- **Project Monitoring & Control -** Taking necessary measures, so that the operation of the project runs smoothly.
- **Project Closure -** Acceptance of the deliverables and discontinuing resources that were required to run the project.

Overcoming Challenges to Project Constraints

It is always a requirement to overcome the challenges related to the project triangle during the project execution period. Project managers need to understand that the three constraints outlined in the project management triangle can be adjusted.

The important aspect is to deal with it. The project manager needs to strike a balance between the three constraints so that quality of the project will not be compromised.

To overcome the constraints, the project managers have several methods to keep the project going. Some of these will be based on preventing stakeholders from changing the scope and maintaining limits on both financial and human resources.

A project manager's role is evolved around responsibility. A project manager needs to supervise and control the project from the beginning to the closure.

The following factors will outline a project manager's role:

- The project manager needs to define the project and split the tasks amongst team members. The project manager also needs to obtain key resources and build teamwork.
- The project manager needs to set the objectives required for the project and work towards meeting these objectives.
- The most important activity of a project manager is to keep stakeholders informed on the progress of the project.
- The project manager needs to asses and carefully monitor risks of the project.

Skills Required for a Project Manager

In order to overcome the challenges related to project triangle and meet the project objectives, the project manager needs to have a range of skills, which includes:

- Leadership
- Managing people
- Negotiation
- Time management
- Effective communication
- Planning
- Controlling
- Conflict resolution
- Problem solving

Conclusion

Project management is very often represented on a triangle. A successful project manager needs to keep a balance between the triple constraints so that the quality of the project or outcome is not

compromised.

There are many tools and techniques that are available in order to face the challenges related to the three constraints. A good project manager will use appropriate tools in order to execute the project successfully.

PROJECT MANAGER GOALS

Introduction

Every organization requires good leadership in order to carry out all their projects successfully. This requires the organization to appoint efficient project managers to carry out various tasks, and of course, to guide and lead the project management team and get them to a point, where they have effectively completed any given project at hand, taking into account a whole load of factors.

In order to understand how project management can run smoothly, it is important to first identify the role and the tasks carried out by the project manager. So who is a project manager and why is he/she so important?

The Role of a Project Manager

The role of a project manager basically involves handling all aspects of the project.

This includes not just the logistics but also the planning, brainstorming and seeing to the overall completion of the project while also preventing glitches and ensuring that the project management team works well together.

The Goals of a Project Manager

Following should be the the main goals for a project manager, but they are not limited to the listed ones because it very much depends on the situation:

1 Deadlines

A project manager must always be able to carry out his role in a very effective manner.

This means that in most cases he/she would have to run against time with the clock ticking away. All projects would have deadlines, so it is the duty of a project manager to complete the project by this given date.

It should be noted that although the project manager and his team may draw up a schedule at the outset that may seem perfect, as time goes on you will find that the requirements may change, and the projects may require new strategies to be implemented and more planning to be carried out.

Time therefore could be a big obstacle for a project manager achieving his/her goal. As the project manager you should never lose sight of the deadline, your role would be to keep pushing your team to finish the work and deliver on time.

Remember that your clients' satisfaction is your number one priority.

2 Client Satisfaction

Satisfaction of the client, however, does not mean that you rush to finish the work on time without ensuring that standards are met.

The reputation of your organization would depend on the quality of the delivery of your projects. This is another factor you should not lose sight of throughout the project.

Your role would also be to keep reminding the team members that quality is key.

3 No Budget Overrun

No project can be started off without the preparation of the budget. Although this is just a forecast of the costs that would be incurred, it is essential that this budget is prepared after careful

research and comparing prices to get the best.

You would need to consider ways of cutting costs while also ensuring that you meet the needs of the client as well as meeting the standards expected of your organization.

This budget must include all costs with regard equipment, labor and everything else. You then need to try and always stick to the budget, although it's always best to leave some allowance for a few 100 dollars for any additional expenses that may arise.

4 Requirements Coverage

Another goal of a project manager involves meeting all requirements of the client. You would need to therefore have all specifications at hand and go through them every once in a while to ensure that you are on track.

If there is confusion as to any requirements, it would be best for you to get them cleared at the very beginning.

5 Team Management

While you would have to ensure that all aspects of the project are maintained, you are also responsible as project manager for the happiness of your team.

You need to keep in mind that it is the incentives and encouragement provided to them that will make them work harder and want to complete the work on time, thereby helping you reach your goals.

If the team members are unhappy with the way things are being carried out, productivity will also in turn decrease, pulling you further away from achieving your goals. It is essential therefore to always maintain a warm friendly relationship with them.

The communication within the team should be very effective. They should be willing to voice out their opinions while you listen to their suggestions and consider including them in the project.

This is after all a team effort. Your goals with regard to the project are also their goals.

Conclusion

The role of a project manager is therefore no easy task. It involves taking up a lot of responsibility as each of the goals of the project must be met without making too many sacrifices.

If these goals are outlined to the project management team at the very beginning, there in no way for the delivery of the goals to be delayed in any way as everyone will always be aware of what they need to achieve and by when.

PROJECT PORTFOLIO MANAGEMENT

Introduction

When there are many projects run by an organization, it is vital for the organization to manage their project portfolio. This helps the organization to categorize the projects and align the projects with their organizational goals.

Project Portfolio Management PPM is a management process with the help of methods aimed at helping the organization to acquire information and sort out projects according to a set of criteria.

Objectives of Project Portfolio Management

Same as with financial portfolio management, the project portfolio management also has its own set of objectives. These objectives are designed to bring about expected results through coherent team players.

When it comes to the objectives, the following factors need to be outlined.

- The need to create a descriptive document, which contains vital information such as name of

project, estimated timeframe, cost and business objectives.

- The project needs to be evaluated on a regular basis to ensure that the project is meeting its target and stays in its course.
- Selection of the team players, who will work towards achieving the project's objectives.

Benefits of Project Portfolio Management

Project portfolio management ensures that projects have a set of objectives, which when followed brings about the expected results. Furthermore, PPM can be used to bring out changes to the organization which will create a flexible structure within the organization in terms of project execution. In this manner, the change will not be a threat for the organization.

The following benefits can be gained through efficient project portfolio management:

- Greater adaptability towards change.
- Constant review and close monitoring brings about a higher return.
- Management's perspectives with regards to project portfolio management is seen as an 'initiative towards higher return'. Therefore, this will not be considered to be a detrimental factor to work.
- Identification of dependencies is easier to identify. This will eliminate some inefficiency from occurring.
- Advantage over other competitors *competitiveadvantage*.
- Helps to concentrate on the strategies, which will help to achieve the targets rather than focusing on the project itself.
- The responsibilities of IT is focused on part of the business rather than scattering across several.
- The mix of both IT and business projects are seen as contributors to achieving the organizational objectives.

Project Portfolio Management Tools

There are many tools that can be used for project portfolio management. Following are the essential features of those tools:

- A systematic method of evaluation of projects.
- Resources need to be planned.
- Costs and the benefits need to be kept on track.
- Undertaking cost benefit analysis.
- Progress reports from time to time.
- Access to information as and when its required.
- Communication mechanism, which will take through the information necessary.

Techniques Used to Measure PPM

There are various techniques, which are used to measure or support PPM process from time to time. However, there are three types of techniques, which are widely used:

- Heuristic model.
- Scoring technique.
- Visual or Mapping techniques.

The use of such techniques should be done in consideration of the project and organizational objectives, resource skills and the infrastructure for project management.

Why Project Managers to Focus on PPM?

PPM is crucial for a project to be successful as well as to identify any back lags if it were to occur. Project Managers often face a difficult situation arising from lack of planning and sometimes this may lead to a project withdrawal.

It's the primary responsibility of project managers to ensure that there are enough available resources for the projects that an organization undertakes. Proper resources will ensure that the project is completed within the set timeline and delivered without a compromise on quality.

Project managers also may wish to work on projects, which are given its utmost priority and value to an organization. This will enable project managers to deliver and receive support for quality projects that they have undertaken. PPM ensures that these objectives of the project management will be met.

The Five Question Model

The five question model of project portfolio management illustrates that the project manager is required to answer five essential questions before the inception as well as during the project execution.

The answers to these questions will determine the success of the implementation of the project.

Conclusion

Project portfolio management is aimed at reducing inefficiencies that occur when undertaking a project and eliminating potential risks, which can occur due to lack of information or systems available.

It helps the organization to align its project work to meet the projects whilst utilizing its resources to the maximum.

Therefore, all the project managers of the organization need to have an awareness of the organizational project portfolio management in order to contribute to the organizational goals when executing respective projects.

PROJECT QUALITY PLAN

Introduction

Every project delivers something at the end of the project execution. When it comes to the project initiation, the project management and the client collaboratively define the objectives and the deliveries of the project together with the completion timelines.

During the project execution, there are a number of project deliveries made. All these deliveries should adhere to certain quality standards *industrystandards* as well as specific client requirements.

Therefore, each of these deliveries should be validated and verified before delivering to the client. For that, there should be a quality assurance function, which runs from start to the end of the project.

When it comes to the quality, not only the quality of the deliveries that matter the most. The processes or activities that produce deliverables should also adhere to certain quality guidelines as well.

As a principle, if the processes and activities that produce the deliverables do not adhere to their own quality standards *processqualitystandards*, then there is a high probability that deliverables not meeting the delivery quality standards.

To address all the quality requirements, standards and quality assurance mechanisms in a project, a document called 'project quality plan' is developed by the project team. This plan acts as the quality bible for the project and all the stakeholders of the project should adhere to the project quality plan.

The Components of a Project Quality Plan

Depending on the nature of the industry and the nature of the project, the components or the areas addressed by a quality plan may vary. However, there are some components that can be found in any type of quality plan.

Let's have a look at the most essential attributes of a project quality plan.

Responsibility of Management

This describes how the management is responsible for achieving the project quality. Since management is the controlling and monitoring function for the project, project quality is mainly a management responsibility.

Document Management and Control

Documents are the main method of communication in project management. Documents are used for communication between the team members, project management, senior management and the client.

Therefore, the project quality plan should describe a way to manage and control the documents used in the project. Usually, there can be a common documentation repository with controlled access in order to store and retrieve the documents.

Requirements Scope

The correct requirements to be implemented are listed here. This is an abstraction of the requirements sign-off document. Having requirements noted in the project quality plan helps the quality assurance team to correctly validate them.

This way, quality assurance function knows what exactly to test and what exactly to leave out from the scope. Testing the requirements that are not in the scope may be a waste for the service provider.

Design Control

This specifies the controls and procedures used for the design phase of the project. Usually, there should be design reviews in order to analyse the correctness of the proposed technical design. For fruitful design reviews, senior designers or the architects of the respective domain should get involved. Once the designs are reviewed and agreed, they are signed-off with the client.

With the time, the client may come up with changes to the requirements or new requirements. In such cases, design may be changed. Every time the design changes, the changes should be reviewed and signed-off.

Development Control and Rigor

Once the construction of the project starts, all the processes, procedures and activities should be closely monitored and measured. By this type of control, the project management can make sure that the project is progressing in the correct path.

Testing and Quality Assurance

This component of the project quality plan takes precedence over other components. This is the element, which describes the main quality assurance functions of the project. This section should clearly identify the quality objectives for the project and the approach to achieve them.

Risks & Mitigation

This section identifies the project quality risks. Then, the project management team should come up with appropriate mitigation plans in order to address each quality risk.

Quality Audits

For every project, regardless of its size or the nature, there should be periodic quality audits to measure the adherence to the quality standards. These audits can be done by an internal team or an external team.

Sometimes, the client may employ external audit teams to measure the compliance to standards and procedures of the project processes and activities.

Defect Management

During testing and quality assurance, defects are usually caught. This is quite common when it comes to software development projects. The project quality plan should have guidelines and instructions on how to manage the defects.

Training Requirements

Every project team requires some kind of training before the project commences. For this, a skill gap analysis is done to identify the training requirements at the project initiation phase.

The project quality plan should indicate these training requirements and necessary steps to get the staff trained.

Conclusion

Project quality plan is one of the mandatory documents for any type of project.

As long as a project has defined objectives and deliverables, there should be a project quality plan to measure the delivery and process quality.

PROJECT RECORDS MANAGEMENT

Introduction

Project management is an approach, which helps managers to manage the projects. Project management also means using controls in place to meet the deadlines and other requirements such as cost of the project.

These controls involve proper and effective recording of project management activities. Record management is a systematic approach for organizing, planning and tracking documents during the course of the project execution.

A-Z of Project Record Management

A record system is a systematic process in which an organization determines the following considerations, activities and characteristics:

- The type of information that should be recorded.
- A process for recording data.
- Handling and collecting of records.
- The time period for retention and storage.
- Disposal or protecting records, which relate to external events.
- Elements in a record management system.
- Content analysis, which states or describes the record system.
- A file plan, which indicates the kind of record that is required for each project.
- A compliance requirement document, which will outline the IT procedures that everyone needs to follow. This will ensure that team members are fully compliant.
- A method, which collects out dated documents. These should be done across all record sources such as e-mails, file servers, etc.
- A method for auditing records.
- A system, which captures the record data.
- A system, which ensures monitoring and reporting in the way which records are being held.

Three Stages of Records

In the project record management process, there are three distinct stages. These stages have many other activities involved in order to complete and accomplish the objectives for each stage.

The stages are:

- The creation of records
- Maintenance of records
- Storage and retrieval of records

Let's have a look at each of the stage in detail.

Creating Records

This refers to the underlying reason as to why the record is being created. This could be for a receipt or for an inventory control report or some other reason.

The primary objective of project record management is to determine the flow of the record handling once the record is created. When it comes to creating records, the following questions should be answered.

- Who will view the record?
- Who will be the final owner of the record?
- Who is responsible for storing the record?

Maintaining Records

Developing an operation to store the records refers to maintaining the records. The access levels to the records should be defined at this stage and should take all necessary steps in order to avoid the records getting into the wrong hands.

Proper compliance procedures and security measures need to be in place to avoid misusing of records.

Storing and Retrieval

Storing of records could refer to manual storage of documents as well as digital storage. Project managers need to ensure that the records are returned in the way it was borrowed. Maintaining records also refers to the amount of time that records can be maintained.

Some organizations may retain records up to six years whilst others less amount of years. If records are saved digitally, proper folders need to be created. Once created, the older documents need to be archived so that hard drive space is retained.

An Insight to Record Management Planning

Records, which are collated needs to be planned. The following outlines the steps that management needs to take to ensure record planning process is successful.

- Identification of roles, which ensure that records are managed properly
    - Allocating dedicated roles or appointing dedicated people to categorize the records, which are available in an organization.
    - Appointing IT professionals to implement systems, which maintain and support record management.
- Managers need to make sure that the team members are aware of the procedures in place for record management.
- The record management process needs to analyze the content of the documents, which are to be saved.
- Implement a file plan, which will store the different kinds of files in an organization.
- Develop retention schedules, which could vary from one organization to another depending on the activity taking place.
- Design effective record management solutions.
- Planning of how content can be moved to record methods.
- Develop a plan where e-mail integration could be made.
- Plan a compliance procedure for social content.
- Develop compliance procedures that align the objectives of project record system.

Conclusion

A record is a document or an electronic storage of data in an organization which acts as evidence or a guideline. A project record management is a systematic process, which allows people to retain records for future use.

It outlines the details which are relevant to the project. Hence, project record management needs to be monitored and retained in a careful manner.

PROJECT RISK CATEGORIES

Introduction

All projects start off with a bang. Yet, some are destined for failure from its very inception, whilst others collapse later on.

Yet, others reach the finish line triumphantly, carrying with them a few scars from battles faced and overcome.

Therefore, in order to minimize project failure, it is prudent to identify the main causative factors that contribute to project risk.

The three main constraints on projects can be classified as schedule, scope and resources, and the mishandling of each can cause a ripple effect on the project, which would then face imminent collapse.

Scope Risk

Defining what is required is not always easy. However, so as to ensure that scope risk is minimized, the deliverables, the objectives, the project charter, and of course, the scope needs to be clearly defined.

All scope risks, be they quantifiable or not, needs to recognized. Scope creep, hardware defects, software defects, an insufficiently defined scope, unexpected changes in the legal or regulatory framework and integration defects can all be classified under the broad umbrella of scope risk.

There are a variety of methods that help stakeholders identify the scope of the project. The risk framework analyses the project's dependency on technology and the market and then assesses how changes in each would affect the outcome of the project.

Similarly, the risk complexity index looks at the technical aspects of the projects, which can be easily quantified and allocated a number between 0 and 99 to indicate the risk of the project.

Risk assessment, on the other hand, uses a grid of technology, structure and magnitude to assess the proposed risk of the project.

A work breakdown structure, commonly abbreviated as WBS, also considers the risks of projects, which are ill defined and where the stated objectives are ambiguous.

Scope risks can be minimized and managed with savvy planning. Defining the project clearly, managing the changes in scope throughout the duration of the project, making use of risk registers to better manage risks, identifying the causative factors, and the appropriate responses to risky situations and developing greater risk tolerance in collaboration with the customer, would pay great dividends in the long run.

Schedule Risk

Keeping to timelines and agreed critical paths is one of the most difficult situations that project managers now face.

An extensive reliance on external parties whose output is not within the project's scope of control, estimation errors, which most often are too optimistic, hardware delays and putting off decision making, all tend to delay the project at hand.

To minimize schedule risks, there are a few time-tested methods that can be put to good use. The process flow of the project should be broken down into small, clearly defined components where the allocated timeframe for each process is relatively short in duration *thismakesiteasytoidentifythingswhentasksveeroffschedule, atitsearliest*.

Be wary of team members or external parties, who hesitate to give estimates or whose estimates seem unrealistic based on historical data and previous experience.

When formulating the critical path, ensure that any holidays that arise are in-built into the equation, so that realistic expectations are created, right from inception. Defining re-work loops too is also recommended, wherever possible.

Resource Risk

People and funds are any project's main resource base. If the people are unskilled or incompetent to perform the task at hand, if the project is under-staffed from the beginning, or if key project members come on aboard far after the inception of the project, there is an obvious project risk that has ill-planned human resources as its base.

Similarly, from a financial perspective, if insufficient funds are provided to carry out the necessary tasks, be it relevant training programs for the people in question or be it inadequate investments

in technology or required machinery, the project is doomed to fail from inception.

Estimating project costs accurately, allocating a suitable budget to meet these costs, not placing undue expectations on the capacity of the staff in question and avoiding burn-out at a later date are all factors that help minimize the project resource risk.

Outsourced functions merit even more attention to detail, as it is for the most part, it is away from the direct purview of the project manager. Clearly defined contracts and regular monitoring would lessen this risk substantially.

Conflict management, which too generally arises with the progression of a project, should also be handled in a skilful manner, so that the project has a smooth run throughout its entire duration.

Conclusion

As is readily apparent, all projects do run the risk of failure due to unplanned contingencies and inaccurate estimates.

Yet, careful planning, constraint management, successful recovery from mistakes if and when they do arise will minimize most risks. True, luck too, does play a part in the success of a project, but hard work and savvy management practices will override most such difficulties.

PROJECT RISK MANAGEMENT

Introduction

Risk is inevitable in a business organization when undertaking projects. However, the project manager needs to ensure that risks are kept to a minimal. Risks can be mainly divided between two types, negative impact risk and positive impact risk.

Not all the time would project managers be facing negative impact risks as there are positive impact risks too. Once the risk has been identified, project managers need to come up with a mitigation plan or any other solution to counter attack the risk.

Project Risk Management

Managers can plan their strategy based on four steps of risk management which prevails in an organization. Following are the steps to manage risks effectively in an organization:

- Risk Identification
- Risk Quantification
- Risk Response
- Risk Monitoring and Control

Let's go through each of the step in project risk management:

Risk Identification

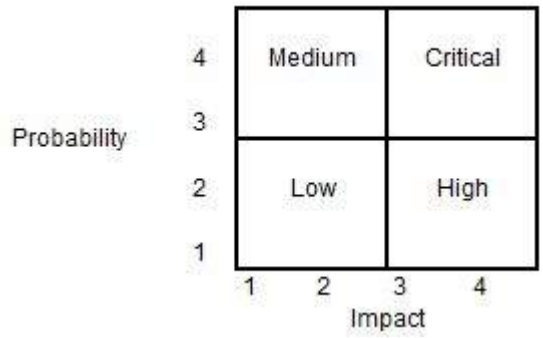
Managers face many difficulties when it comes to identifying and naming the risks that occur when undertaking projects. These risks could be resolved through structured or unstructured brainstorming or strategies. It's important to understand that risks pertaining to the project can only be handled by the project manager and other stakeholders of the project.

Risks, such as operational or business risks will be handled by the relevant teams. The risks that often impact a project are supplier risk, resource risk and budget risk. Supplier risk would refer to risks that can occur in case the supplier is not meeting the timeline to supply the resources required.

Resource risk occurs when the human resource used in the project is not enough or not skilled enough. Budget risk would refer to risks that can occur if the costs are more than what was budgeted.

Risk Quantification

Risks can be evaluated based on quantity. Project managers need to analyze the likely chances of a risk occurring with the help of a matrix.



Using the matrix, the project manager can categorize the risk into four categories as Low, Medium, High and Critical. The probability of occurrence and the impact on the project are the two parameters used for placing the risk in the matrix categories. As an example, if a risk occurrence is low $probability = 2$ and it has the highest impact $impact = 4$, the risk can be categorized as 'High'.

Risk Response

When it comes to risk management, it depends on the project manager to choose strategies that will reduce the risk to minimal. Project managers can choose between the four risk response strategies, which are outlined below.

- Risks can be avoided
- Pass on the risk
- Take corrective measures to reduce the impact of risks
- Acknowledge the risk

Risk Monitoring and Control

Risks can be monitored on a continuous basis to check if any change is made. New risks can be identified through the constant monitoring and assessing mechanisms.

Risk Management Process

Following are the considerations when it comes to risk management process:

- Each person involved in the process of planning needs to identify and understand the risks pertaining to the project.
- Once the team members have given their list of risks, the risks should be consolidated to a single list in order to remove the duplications.
- Assessing the probability and impact of the risks involved with the help of a matrix.
- Split the team into subgroups where each group will identify the triggers that lead to project risks.
- The teams need to come up with a contingency plan whereby to strategically eliminate the risks involved or identified.
- Plan the risk management process. Each person involved in the project is assigned a risk in which he/she looks out for any triggers and then finds a suitable solution for it.

Risk Register

Often project managers will compile a document, which outlines the risks involved and the strategies in place. This document is vital as it provides a huge deal of information.

Risk register will often consists of diagrams to aid the reader as to the types of risks that are dealt

by the organization and the course of action taken. The risk register should be freely accessible for all the members of the project team.

Project Risk; an Opportunity or a Threat?

As mentioned above, risks contain two sides. It can be either viewed as a negative element or a positive element. Negative risks can be detrimental factors that can haphazard situations for a project.

Therefore, these should be curbed once identified. On the other hand, positive risks can bring about acknowledgements from both the customer and the management. All the risks need to be addressed by the project manager.

Conclusion

An organization will not be able to fully eliminate or eradicate risks. Every project engagement will have its own set of risks to be dealt with. A certain degree of risk will be involved when undertaking a project.

The risk management process should not be compromised at any point, if ignored can lead to detrimental effects. The entire management team of the organization should be aware of the project risk management methodologies and techniques.

Enhanced education and frequent risk assessments are the best way to minimize the damage from risks.

PROJECT SCOPE DEFINITION

Introduction

When it comes to project planning, defining the project scope is the most critical step. In case if you start the project without knowing what you are supposed to be delivering at the end to the client and what the boundaries of the project are, there is a little chance for you to success. In most of the instances, you actually do not have any chance to success with this unorganized approach.

If you do not do a good job in project scope definition, project scope management during the project execution is almost impossible.

The main purpose of the scope definition is to clearly describe the boundaries of your project. Clearly describing the boundaries is not enough when it comes to project. You need to get the client's agreement as well.

Therefore, the defined scope of the project usually included into the contractual agreements between the client and the service provider. SOW, or in other words, Statement of Work, is one such document.

In the project scope definition, the elements within the scope and out of the scope are well defined in order to clearly understand what will be the area under the project control. Therefore, you should identify more elements in detailed manner and divide them among the scope and out of scope.

How to Define the Project Scope

When the project is about to be funded, there should be a set of defined deliveries and objectives for the project. There can be a high level-scope statement prepared at this level.

This high-level scope statement can be taken from the initial documents such as SOW. In addition to the SOW, you need to use any other document or information in order to further define the project scope at this level.

In case, if you feel that you do not have enough information to come up with a high-level scope statement, you should then work closely with the client in order gather necessary information.

Project objectives can be used for defining the project scope. As a matter of fact, there should be

one or more deliveries addressing each project objective in the project. By looking at the deliverables, you can actually gauge the project scope.

Once you get to know the main deliverables of the project, start asking questions about the other processes and different aspects of the project.

First identifying and clearly defining the out of scope also helps you to understand the scope of a project. When you go on defining the out of scope, you will automatically get an idea of the real project scope. In order to follow this method, you need to have a defined scope up to a certain level.

Whenever you identify an item for the scope or out-of-scope, make sure you document it then and there. Later, you can revisit these items and elaborate more on those.

Once you have successfully defined the scope of the project, you need to get the sign-off from the related and applicable parties. Without proper sign-off for the scope, the next phases of the project, i.e., requirements gathering, might have issues in executing.

Scope Creep

Scope creep is something common with every project. This refers to the incremental expansion of the project scope. Most of the time, the client may come back to the service provider during the project execution and add more requirements.

Most of such requirements haven't been in the initial requirements. As a result, change requests need to be raised in order to cover the increasing costs of the service provider.

Due to business cope creep, there can be technological scope creep as well. The project team may require new technologies in order to address some of the new requirements in the scope.

In such instances, the service provider may want to work with the client closely and make necessary logistic and financial arrangements.

Conclusion

Project scope definition is the most important factor when it comes to project requirements. It is vital for service providers to define the scope of the project in order to successfully enter into an agreement with the client.

In addition to this, the scope of the project gives an idea to the services provider about the estimated cost of the project. Therefore, service provider's profit margins are wholly dependent on the accuracy of the project scope definition.

PROJECT SELECTION METHODS

Introduction

One of the biggest decisions that any organization would have to make is related to the projects they would undertake. Once a proposal has been received, there are numerous factors that need to be considered before an organization decides to take it up.

The most viable option needs to be chosen, keeping in mind the goals and requirements of the organization. How is it then that you decide whether a project is viable? How do you decide if the project at hand is worth approving? This is where project selection methods come in use.

Choosing a project using the right method is therefore of utmost importance. This is what will ultimately define the way the project is to be carried out.

But the question then arises as to how you would go about finding the right methodology for your particular organization. At this instance, you would need careful guidance in the project selection criteria, as a small mistake could be detrimental to your project as a whole, and in the long run, the organization as well.

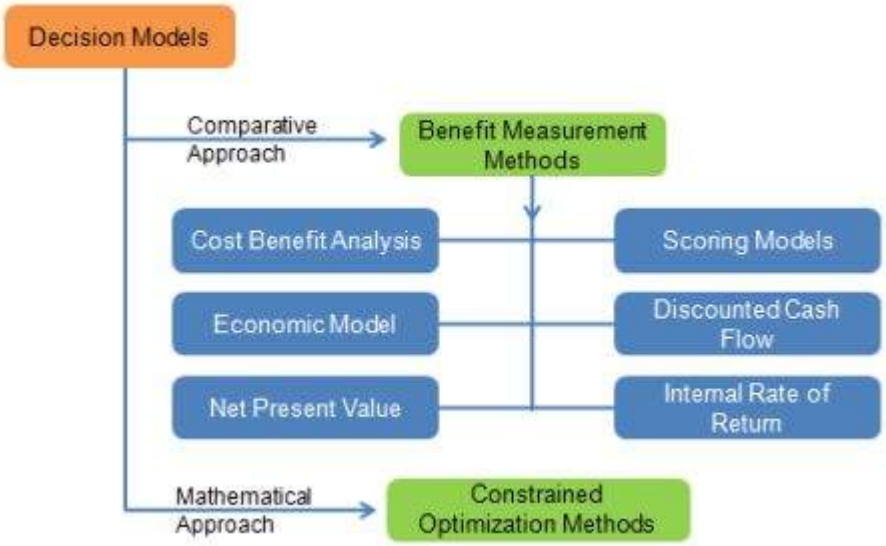
Selection Methods

There are various project selection methods practised by the modern business organizations.

These methods have different features and characteristics. Therefore, each selection method is best for different organizations.

Although there are many differences between these project selection methods, usually the underlying concepts and principles are the same.

Following is an illustration of two of such methods *BenefitMeasurementandConstrainedOptimizationmethods*:



As the value of one project would need to be compared against the other projects, you could use the benefit measurement methods. This could include various techniques, of which the following are the most common:

- You and your team could come up with certain criteria that you want your ideal project objectives to meet. You could then give each project scores based on how they rate in each of these criteria and then choose the project with the highest score.
- When it comes to the Discounted Cash flow method, the future value of a project is ascertained by considering the present value and the interest earned on the money. The higher the present value of the project, the better it would be for your organization.
- The rate of return received from the money is what is known as the IRR. Here again, you need to be looking for a high rate of return from the project.

The mathematical approach is commonly used for larger projects. The constrained optimization methods require several calculations in order to decide on whether or not a project should be rejected.

Cost-benefit analysis is used by several organizations to assist them to make their selections. Going by this method, you would have to consider all the positive aspects of the project which are the benefits and then deduct the negative aspects *orthecosts* from the benefits. Based on the results you receive for different projects, you could choose which option would be the most viable and financially rewarding.

These benefits and costs need to be carefully considered and quantified in order to arrive at a proper conclusion. Questions that you may want to consider asking in the selection process are:

- Would this decision help me to increase organizational value in the long run?
- How long will the equipment last for?
- Would I be able to cut down on costs as I go along?

In addition to these methods, you could also consider choosing based on opportunity cost - When choosing any project, you would need to keep in mind the profits that you would make if you decide to go ahead with the project.

Profit optimization is therefore the ultimate goal. You need to consider the difference between the profits of the project you are primarily interested in and the next best alternative.

Implementation of the Chosen Method

The methods mentioned above can be carried out in various combinations. It is best that you try out different methods, as in this way you would be able to make the best decision for your organization considering a wide range of factors rather than concentrating on just a few. Careful consideration would therefore need to be given to each project.

Conclusion

In conclusion, you would need to remember that these methods are time-consuming, but are absolutely essential for efficient business planning.

It is always best to have a good plan from the inception, with a list of criteria to be considered and goals to be achieved. This will guide you through the entire selection process and will also ensure that you do make the right choice.

PROJECT SUCCESS CRITERIA

Introduction

As a project manager, the main objective of the project manager is to deliver the project within the time stated and on budget defined. However, that's not all when it comes to project success criteria.

In addition to above conditions, the project manager needs to work closely with the customer and should ensure the project deliverables have met the customer expectations.

There are many parameters in a project success criterion.

Key Performance Indicators

The first project success criterion is to deliver projects bearing in mind the business drivers. Key Performance Indicators $KPI's$ is a method used to measure the benefits gained from undertaking the project.

These provide an insight to the scope of the project. The performance indicators are:

- Established by the clients at the start of the project and are listed on a priority basis.
- Aligned with the business objectives.
- Able to make critical decisions based on KPI's for the project.
- Prove to be a stance for products to be accepted by the clients.
- It's a quantitative method and it's measurable.

To create a project success, criteria based on KPI is not enough and targets need to be set. These set targets need to be realistic and achievable at the end.

The Project Manager's Verdict for Project Success Criteria

A project success criterion begins with the initiatives taken by the project manager to the project in question. This will increase the chances of the project becoming successful as well as meeting customer's expectations.

The project manager, who wants his/her project successful will definitely ask the customers for feedback.

This approach will prove to be successful and will be a learning curve if any mistakes had been done. KPI need to go hand in hand with the business objectives for a project to be considered successful.

Meeting the Customer's Expectations

Going the extra mile is not restricted to only customer services, it's also a magic word for project management. A top most important factor for a project success criterion is to exceed customer's expectations by completing the project within the stated deadline, budget and quality.

However, project manager needs to bear in mind that this could be misinterpreted and could lead to unnecessary cost. Ideas to make a better product than sticking to the original idea could be done with the approval of the customer. For this to be successful, proper implementation needs to be in place.

Success Factors

Success factors are contributions made by the management towards a successful project. These can be classified broadly into five groups as follows:

- **The project manager -** The person needs to have an array of skills under his arm to use during the project.
- **Project team -** The team needs to consist of variety of skills and experience. Collectively as a team, success is easy to achieve with proper guidance.
- **Project -** The scope and timeline of the project is crucial.
- **Organization -** The organization needs to provide support to both the project manager and the project team.
- **External environment -** External constraints should not affect the project. Back-up plans need to be in place in case daily tasks cannot be carried by the team.

The project's quality should not be compromised under any circumstances as this will drive away potential customers.

Further Project Success Criteria

The criteria for a successful project are not restricted to only above. However, following are some of other supporting factors that need to be considered when it comes to a successful project management and execution:

- Negotiations
- Proper and conducive project plan
- Assigning tasks to the team members
- Developing a plan to achieve common tasks
- Reviewing and doing a rework when needed
- Managing project risks efficiently
- Allocating time for process improvement
- Learn from the learning curve
- Proper estimation of project in terms of not only quantitatively but also qualitatively

Conclusion

A project to be considered successful requires proper planning and the help from the management. Exceeding customer requirements will bring about success to the project.

Understanding the business drivers and ensuring that the project meets the objectives of the business will also contribute to success.

Aligning the key performance indicator to that of the business objective will not only help project managers to keep track but also measure and improve performance.

PROJECT TIME MANAGEMENT

Introduction

Time is a terrible resource to waste. This is the most valuable resource in a project.

Every delivery that you are supposed to make is time-bound. Therefore, without proper time management, a project can head towards a disaster.

When it comes to project time management, it is not just the time of the project manager, but it is the time management of the project team.

Scheduling is the easiest way of managing project time. In this approach, the activities of the project are estimated and the durations are determined based on the resource utilization for each activity.

In addition to the estimate and resource allocation, cost always plays a vital role in time management. This is due to the fact that schedule over-runs are quite expensive.

The Steps of the Time Management Process

Following are the main steps in the project time management process. Each addresses a distinct area of time management in a project.

1. Defining Activities

When it comes to a project, there are a few levels for identifying activities. First of all, the high-level requirements are broken down into high-level tasks or deliverables.

Then, based on the task granularity, the high-level tasks/deliverables are broken down into activities and presented in the form of WBS *WorkBreakdownStructure*.

2. Sequencing Activities

In order to manage the project time, it is critical to identify the activity sequence. The activities identified in the previous step should be sequenced based on the execution order.

When sequencing, the activity interdependencies should be considered.

3. Resource Estimating for Activities

The estimation of amount and the types of resources required for activities is done in this step. Depending on the number of resources allocated for an activity, its duration varies.

Therefore, the project management team should have a clear understanding about the resources allocation in order to accurately manage the project time.

4. Duration and Effort Estimation

This is one of the key steps in the project planning process. Since estimates are all about the time *duration*, this step should be completed with a higher accuracy.

For this step, there are many estimation mechanisms in place, so your project should select an appropriate one.

Most of the companies follow either WBS based estimating or Function Points based estimates in this step.

Once the activity estimates are completed, critical path of the project should be identified in order to determine the total project duration. This is one of the key inputs for the project time management.

5. Development of the Schedule

In order to create an accurate schedule, a few parameters from the previous steps are required.

Activity sequence, duration of each activity and the resource requirements/allocation for each activity are the most important factors.

In case if you perform this step manually, you may end up wasting a lot of valuable project planning time. There are many software packages, such as Microsoft Project, that will assist you to develop reliable and accurate project schedule.

As part of the schedule, you will develop a Gantt chart in order to visually monitor the activities and the milestones.

6. Schedule Control

No project in the practical world can be executed without changes to the original schedule. Therefore, it is essential for you to update your project schedule with ongoing changes.

Conclusion

Time management is a key responsibility of a project manager. The project manager should equip with a strong skill and sense for time management.

There are a number of time management techniques that have been integrated into the management theories and best practices.

As an example, Agile/Scrum project management style has its own techniques for time management.

In addition, if you are keen on learning time management into greater depths, you can always get into a training course of one of the reputed and respected time management trainers.

PROJECT WORKFORCE MANAGEMENT

Introduction

There are many logistic elements in a project. Different team members are responsible for managing each element and sometimes, the organization may have a mechanism to manage some logistic areas as well.

When it comes to project workforce management, it is all about managing all the logistic aspects of a project or an organization through a software application. Usually, this software has a workflow engine defined in them. So, all the logistic processes take place in the workflow engine.

Following are the regular and most common types of tasks handled by project workforce management software or a similar workflow engine:

- Planning and monitoring the project schedules and milestones.
- Tracking the cost and revenue aspects of projects.
- Resource utilization and monitoring.
- Other management aspects of the project management.

Due to the software use, all of the project workflow management tasks can be fully automated with leaving much for the project managers. This returns high efficiency to the project management when it comes to project tracking purposes.

In addition to different tracking mechanisms, project workforce management software also offer a dashboard for the project team. Through the dashboard, the project team has a glance view of the overall progress of the project elements.

The dashboard is also a great place for the upper management to track the progress of each project during executive meetings.

Most of the times, project workforce management software can work with the existing legacy software systems such as ERP systems. This easy integration allows the organization use a combination of software systems for management purposes.

Traditional Management Vs Project Workforce Management

The traditional management and the project workflow management have significant differences. There are at least three main differences when it comes to operations and management. Following are the three main differences:

1. A graphical workflow

The management of all the processes is done through a graphical workflow engine. In this, the users can design, control and audit the different processes involved in the project.

The graphical workflow is quite attractive for the users of the system and allows the users to have a clear idea of the workflow engine.

2. Work breakdown structures and organization:

Project workforce management provides the facility for work breakdown structure and organization of the same. The users can create, manage, edit and report work breakdown structures.

These work breakdown structures are done in different abstraction levels, so the information related to such can be tracked at any level.

Usually, project workforce management has approval hierarchies. Therefore, each workflow created will go through several verifications before it becomes an organizational or project standard. This helps the organization to reduce the inefficiencies of the process, as it is audited by many stakeholders.

3. Connected financial, workforce and project processes

In project workforce management software, everything is neatly connected. Once workforce and billing management software are integrated, it provides the organization all the necessary information and management facilities.

Due to the integrated nature of all these processes, the management and tracking functions are centralized. This allows the higher management to have a unified view of the project activities.

Conclusion

Project workflow management is one of the best methods for managing different aspects of project. If the project is complex, then the outcomes from the project workforce management could be more effective.

For simple projects or small organizations, project workflow management may not add much value. This is due to the fact that small organizations or projects do not have a significant overhead when it comes to managing processes.

There are many software systems in the market for project workflow management, but in many cases, organizations are too unique to adopt such ready-made solutions.

Therefore, organization gets software development companies to develop custom project workflow management systems for them. This has proved to be the most suitable way of getting the best project workforce management system acquired for the company.

PROJECT MANAGEMENT SOFTWARE

Introduction

Since the project management is one of the core functions of a business organization, the project management function should be supported by software. Before software was born, project management was fully done through papers. This eventually produced a lot of paper documents and searching through them for information which was not a pleasant experience.

Once software came available for an affordable cost for the business organizations, software

development companies started developing project management software. This became quite popular among all the industries and these software were quickly adopted by the project management community.

Types of Project Management Software

1 - Desktop

There are two types of project management software available for project managers. The first category of such software is the desktop software. Microsoft Project is a good example for this type. You can manage your entire project using MS Project, but you need to share the electronic documents with others, when collaboration is required.

All the updates should be done to the same document by relevant parties time to time. Therefore, such desktop project management software has limitations when it should be updated and maintained by more than one person.

2 - Web Based

As a solution for the above issue, the web-based project management software was introduced. With this type, the users can access the web application and read, write or change the project management-related activities.

This was a good solution for distributed projects across departments and geographies. This way, all the stakeholders of the project have access to project details at any given time. Specially, this model is the best for virtual teams that operate on the Internet.

Characteristics of Project Management Software

When it comes to choosing project management software, there are many things to consider. Not all the projects may utilize all the features offered by project management software.

Therefore, you should have a good understanding of your project requirements before attempting to select one for you. Following are the most important aspects of project management software:

1 - Collaboration

The project management software should facilitate the team collaboration. This means that the relevant stakeholders of the project should be able to access and update the project documents whenever they want to.

Therefore, the project management software should have access control and authentication management in order to grand access levels to the project stakeholders.

2 - Scheduling

Scheduling is one of the main features that should be provided by project management software. Usually, modern project management software provides the ability to draw Gantt charts when it comes to activity scheduling.

In addition to this, activity dependencies can also be added to the schedules, so such software will show you the project critical path and later changes to the critical path automatically.

Baselining is also a useful feature offered by project management software. Usually, a project is basedlined when the requirements are finalized.

When requirements are changed and new requirements are added to the project later, project management team can compare the new schedule with the baseline schedule automatically to understand the project scope and cost deviations.

3 - Issue Tracking

During the project life cycle, there can be many issues related to project that needs constant tracking and monitoring. Software defects is one of the good examples for this.

Therefore, the project management software should have features to track and monitor the issues reported by various stakeholders of the project.

4 - Project Portfolio Management

Project portfolio management is one of the key aspects when an organization has engaged in more than one project. The organization should be able measure and monitor multiple projects, so the organization knows how the projects progress overall.

If you are a small company with only a couple of projects, you may not want this feature. In such case, you should select project management software without project portfolio management, as such features could be quite expensive for you.

5 - Document Management

A project has many documents in use. Most of these documents should be accessible to the stakeholders of the project. Therefore, the project management software should have a document management facility with correct access control system.

In addition to this, documents need to be versioned whenever they are updated. Therefore, the document management feature should support document versioning as well.

6 - Resource Management

Resource management of the project is one of the key expectations from project management software. This includes both human resources and other types.

The project management software should show the utilization of each resource throughout the entire project life cycle.

Conclusion

Modern project management practice requires the assistance of project management software. The modern project management practice is complicated to an extent that it cannot operate without the use of software.

When choosing the correct project management software for your purpose, you need to evaluate the characteristics of software and match with your project management requirements.

Never choose one with more feature than you require, as usually project management software come with a high price tag. In addition, having more than the required features could make confusions when using the software in practice.

QUALITY CONTROL & QUALITY ASSURANCE

Introduction

Quality is an important factor when it comes to any product or service. With the high market competition, quality has become the market differentiator for almost all products and services.

Therefore, all manufacturers and service providers out there constantly look for enhancing their product or the service quality.

In order to maintain or enhance the quality of the offerings, manufacturers use two techniques, quality control and quality assurance. These two practices make sure that the end product or the service meets the quality requirements and standards defined for the product or the service.

There are many methods followed by organizations to achieve and maintain required level of quality. Some organizations believe in the concepts of Total Quality Management *TQM* and some others believe in internal and external standards.

The standards usually define the processes and procedures for organizational activities and assist to maintain the quality in every aspect of organizational functioning.

When it comes to standards for quality, there are many. ISO *InternationalStandardsOrganization* is one of

the prominent bodies for defining quality standards for different industries.

Therefore, many organizations try to adhere to the quality requirements of ISO. In addition to that, there are many other standards that are specific to various industries.

As an example, SEI-CMMi is one such standard followed in the field of software development.

Since standards have become a symbol for products and service quality, the customers are now keen on buying their product or the service from a certified manufacturer or a service provider.

Therefore, complying with standards such as ISO has become a necessity when it comes to attracting the customers.

Quality Control

Many people get confused between quality control QC and quality assurance QA. Let's take a look at quality control function in high-level.

As we have already discussed, organizations can define their own internal quality standards, processes and procedures; the organization will develop these over time and then relevant stakeholders will be required to adhere by them.

The process of making sure that the stakeholders are adhered to the defined standards and procedures is called quality control. In quality control, a verification process takes place.

Certain activities and products are verified against a defined set of rules or standards.

Every organization that practices QC needs to have a Quality Manual. The quality manual outlines the quality focus and the objectives in the organization.

The quality manual gives the quality guidance to different departments and functions. Therefore, everyone in the organization needs to be aware of his or her responsibilities mentioned in the quality manual.

Quality Assurance

Quality Assurance is a broad practice used for assuring the quality of products or services. There are many differences between quality control and quality assurance.

In quality assurance, a constant effort is made to enhance the quality practices in the organization.

Therefore, continuous improvements are expected in quality functions in the company. For this, there is a dedicated quality assurance team commissioned.

Sometimes, in larger organizations, a 'Process' team is also allocated for enhancing the processes and procedures in addition to the quality assurance team.

Quality assurance team of the organization has many responsibilities. First and foremost responsibility is to define a process for achieving and improving quality.

Some organizations come up with their own process and others adopt a standard processes such as ISO or CMMi. Processes such as CMMi allow the organizations to define their own internal processes and adhere by them.

Quality assurance function of an organization uses a number of tools for enhancing the quality practices. These tools vary from simple techniques to sophisticated software systems.

The quality assurance professionals also should go through formal industrial trainings and get them certified. This is especially applicable for quality assurance functions in software development houses.

Since quality is a relative term, there is plenty of opportunity to enhance the quality of products and services.

The quality assurance teams of organizations constantly work to enhance the existing quality of products and services by optimizing the existing production processes and introducing new processes.

Conclusion

When it comes to our focus, we understand that quality control is a product-oriented process. When it comes to quality assurance, it is a process-oriented practice.

When quality control makes sure the end product meets the quality requirements, quality assurance makes sure that the process of manufacturing the product does adhere to standards.

Therefore, quality assurance can be identified as a proactive process, while quality control can be noted as a reactive process.

RACI CHART TOOL

Introduction

RACI denotes Responsible, Accountable, Consulted and Informed, which are four parameters used in a matrix used in decision making. RACI chart tool outlines the activities undertaken within an organization to that of the people or roles.

In an organization, people can be allocated or assigned to specific roles for which they are responsible, accountable, consulted or informed.

RACI chart tool is a great tool when it comes to identifying employee roles within an organization. This tool can be successfully used when there is role confusion within the company. Role confusion may lead to unproductive work culture.

Parameters in RACI Chart Tool

RACI chart tool represents four parameters as we have already noted in the Introduction. Following are the meanings for each of these parameters:

- **Responsible:** This is a person, who performs a task or work and he/she is responsible for the work.
- **Accountable:** Primarily the person in charge of the task or work.
- **Consulted:** Person, who gives feedback, contribute as and when required.
- **Informed:** Person in charge who needs to know the action or decision taken.

A sample RACI tool

	Release Manager	Project Manager	Developer	Program Manager
Product planning	I	A	R	C
Product development	I	I	A	R
Product release	R	A	I	I

Benefits of a RACI Chart Tool

Following are the well-noted benefits of this tool for the business organizations:

- Identifying the workload that have been assigned to specific employees or departments
- Making sure that the processes are not overlooked
- Ensuring that new recruits are explained of their roles and responsibilities

- Finding the right balance between the line and project responsibilities
- Redistributing work between groups to get the work done faster
- Open to resolving conflicts and discussions
- Documenting the roles and responsibilities of the people within the organization

How is RACI Chart Tool Used?

Identifying key functions and processes within an organization is the first step towards using the RACI chart tool. Then, the organization needs to outline the activities that take place and should avoid any miscellaneous activities.

Following are the detailed steps for using RACI chart tool:

- Explain each activity that had taken place.
- Create phrases to indicate the result of the decision made.
- Decisions and activities need to be applied to the role rather than targeting the person.
- Create a matrix, which represents the roles and activities and enter the RACI Code created.

Once all the relevant data have been collated and input onto the RACI chart tool, any discrepancies need to be resolved.

Changing Management Issues

The primary reason for creating a RACI chart tool is to resolve organizational issues. It looks at three main factors:

- Role conception: The attitude or thinking of people towards their work roles
- Role expectation: The expectation of a person with regards to another person's job role.
- Role behavior: The activities of people in their job function.

These three concepts help management to identify the misconceptions that people have towards their job roles.

Reasons for Role Confusion

Although role confusion can be solved using RACI chart tool, it is always a good idea to identify the reasons behind such confusion. This helps the organization to avoid such situations occurring in the future.

Following are some of the reasons for role confusion:

- Improper balance of work
- Idle time
- Passing on the ball, being irresponsible
- Confused as to who makes the decisions
- Ineffective communications
- De-motivation
- Filling idle time by creating and attending to non-essential time
- *Don't care since no one's bothered* attitude

When to Use RACI Chart Tool?

RACI chart tool can be successfully used under the following conditions.

- For employees to get a clear understanding of the role and responsibilities around the work process.
- To improve the understanding of function between departments and responsibilities within one's department.
- To clearly define the roles and responsibilities of team members, who are working on a project.

Steps Taken When Designing RACI Chart Tool

- The first step towards designing RACI chart tool is that the management needs to identify the process or function that faces issues. The process or feature needs to be thoroughly investigated in terms of its requirements and objectives.
- The roles or job functions need to be identified in terms as to which ones will be impacted and who will be implementing the changes.
- The roles to be created will have its owner. The management needs to assign a role to each individual.
- Identify who has an R role *responsible* and then it needs to be listed in terms of A, C and I. RACI chart tools do not work in a way that two people will be held responsible *R* for the same thing.
- Review needs to be conducted so that there are no duplicates in the process.

Conclusion

RACI chart tool is a useful and effective decision making tool that helps to define roles and responsibilities. This is used to identify inefficiencies of organizational roles.

It helps to resolve any functional issues that arise within departments or between individuals.

The main objective of RACI chart tool is to eliminate role confusions and to be able to deliver the product or service successfully to the customer and contribute to the long-term organizational objectives.

RECOGNITION AND REWARDS

Introduction

Rewards and recognition are considered powerful tools, which are used by an organization to motivate its employees.

Rewards and recognition are remuneration based systems, which include bonus, perks, allowances and certificates.

Types of Remuneration Methods

Often people are under the impression that companies only offer remuneration-based systems and not recognize the employees' performance. This is not the case.

In an organization, you will find following systems in place to boost motivation in addition to the regular compensation.

- Remuneration pay
- Nonfinancial benefits
- Share options

Methods of Rewards

Following are the common methods of rewards that can be found in modern business organizations. Although not all these reward methods are used by the same company, the

companies can adopt the best reward methods that suit the company culture and other company goals.

As an example, some companies do like to give all the benefits to the employees as financials, while other companies like giving the employees the other benefits such as insurance, better working environment, etc.

Basic Pay

Pay is an essential factor, which is closely related to job satisfaction and motivation. Although pay may not be a reward as this is a static amount, which an employee will be paid every month, it will be considered as a reward if similar work is paid less.

Additional Hour's Rewards

This is similar to that of overtime. However, it is paid to employees if they put in an extra hour of work for working at unsocial hours or for working long hours on top of overtime hours.

Commission

Many organizations pay commission to sales staff based on the sales that they have generated. The commission is based on the number of successful sales and the total business revenue that they have made. This is a popular method of incentive.

Bonuses

Bonuses will be paid to employees, who meet their targets and objectives. This is aimed at employees to improve their performance and to work harder.

Performance Related Pay

This is typically paid to employees, who have met or exceeded their targets and objectives. This method of reward can be measured at either team or department level.

Profits Related Pay

Profits related pay is associated with if an organization is incurring a profit situation. If the organization is getting more than the expected profits, then employees receive an additional amount of money that has been defined as a variable component of the salary.

Payment by Results

This is very similar to that of profit related pay. This reward is based on the number of sales and total revenue generated by the organization.

Piece Rate Reward

Piece rate reward is directly related to output. The employees get paid on the number of 'pieces' that they have produced. These pieces will be closely inspected to make sure that quality standards are being met.

Recognition

Employees will not always be motivated by monetary value alone. They do require recognition to be motivated and to perform well in their work.

Job Enrichment

This is a common type of recognition that is aimed at employees to get motivated. Job enrichment allows more challenging tasks to be included in the day-to-day tasks performed by the employee.

Working the same way everyday may prove to be monotonous to the employees. Therefore, there will be a lack of interest and the performance drops.

Job Rotation

Unlike job enrichment, job rotation refers to shifting employees between different functions. This will give them more experience and a sense of achievement.

Teamwork

Teamwork is also considered as recognition. Creating teamwork between team members will improve performance at work. Social relationships at work are essential for any organization.

Healthy social relationships are considered as recognition to the employees. This improves their morale and performance.

Empowerment

Empowerment refers to when employees are given authority to make certain decisions. This decision making authority is restricted only to the day-to-day tasks.

By giving employees authority and power can lead to wrong decisions to be made which will cost the company. Empowerment will not relate to day-to-day functioning authority. This will make employees more responsible, vigilant and increase their performance.

Training

Many organizations place a greater emphasis on training. This is considered as recognition for employees. Training could vary from on the job training to personal development training.

Training workshops such as *train the trainer* or *how to become a manager* will give employees a chance to switch job roles and this will increase their motivation levels.

Awards

This again is an important type of recognition that is given to employees, who perform better. Organizations have introduced award systems such as *best performer of the month*, etc., and all these will lead employees to perform better.

Conclusion

Rewards and recognitions are equally important when trying to promote performance and morale amongst employees. The above methods can be used to motivate employees.

Since all the methods may not be applicable to the same organization, the organizations should make sure that they choose the best rewards that suit the organization.

REQUIREMENT COLLECTION

Introduction

When it comes to any type of project, requirement collection plays a key role. Requirements collection is not only important for the project, but it is also important for the project management function.

For the project, understanding what the project will eventually deliver is critical for its success. Through requirements, the project management can determine the end deliveries of the project and how the end deliveries should address client's specific requirements.

Although requirements collection looks quite straightforward; surprisingly, this is one of the project phases where most of the projects start with the wrong foot. In general, majority of the failed projects have failed due to the wrong or insufficient requirements gathering. We will discuss on this in the following section.

Following is an illustration indicating where the requirements collection comes in a project:

The Importance of Requirements

Let's take a software development project as an example. Once the project initiation is over, the business analyst team is in a hurry to collect requirements. The BA *businessanalysts* team use various methods to capture project requirements and then pass the requirements to the project team. Once business requirements are converted into technical requirements, the implementation starts.

Although the above cycle looks quite normal and trouble-free, the reality is somewhat different. In most of the cases, the BA team is unable to capture all the requirements related to the project. They always overlook a portion of requirements. During the construction of the project, usually the client recognizes the requirements gaps of the project.

The project team will have to implement these missing requirements with no additional client payments or with client approved change requests. In case if it was BA team's fault, the service provider may have to absorb the cost for implementing the missing requirements. In such instances, if the effort for missing requirements has a significant impact on the cost of the project, the project may be a financial loss for the service provider.

Therefore, the requirement collection process is the most important phase of any project.

The Process for Requirements Collection

For the purpose of requirements collection, there are a few methods used by the business analysts. These methods usually differ from one project to another and one client organization to another.

Usually requirements for a new system are gathered from the potential end-users of the system. The methods used for gathering requirements from these potential end-users vary depending on the nature of the end-users. As an example, if there is a large number of end-users, then the workshop method can be used for requirements collection.

In this method, all the potential end-users are asked to participate for a workshop. In this workshop, the business analysts do engage with the users and collect the requirements for the new system. Sometimes, the workshop session is video recorded in order to review and capture any user feedback.

If the user base is quite small in number, the business analysts can carry out face-to-face interviews. This is the most effective way of finding all the necessary requirements as the business analyst can have all their questions asked and cross questioned as well.

Questioners can be used effectively for requirements collection process, but this should not be the only method of interacting with the end-users. Questioners should be used as a supporting feature for interviews or a workshop.

In addition to the above methods, there are many other specific methods that can be used for specific conditions.

Tips for Successful Requirements Collection

Following are some of the tips for making the requirements collection process successful:

- Never assume that you know customer's requirements. What you usually think, could be quite different to what the customer wants. Therefore, always verify with the customer when you have an assumption or a doubt.
- Get the end-users involved from the start. Get their support for what you do.
- At the initial levels, define the scope and get customer's agreement. This helps you to successfully focus on scope of features.
- When you are in the process of collecting the requirements, make sure that the requirements are realistic, specific and measurable.
- Focus on making the requirements document crystal clear. Requirement document is the only way to get the client and the service provider to an agreement. Therefore, there should not be any gray area in this document. If there are gray areas, consider this would lead to potential business issues.

- Do not talk about the solution or the technology to the client until all the requirements are gathered. You are not in a position to promise or indicate anything to the client until you are clear about the requirements.
- Before moving into any other project phases, get the requirements document signed off by the client.
- If necessary, create a prototype to visually illustrate the requirements.

Conclusion

Requirement collection is the most important step of a project. If the project team fails to capture all the necessary requirements for a solution, the project will be running with a risk. This may lead to many disputes and disagreements in the future, and as a result, the business relationship can be severely damaged.

Therefore, take requirement collection as a key responsibility of the project team. Until the requirements are signed off, do not promise or comment on the nature of the solution.

RESOURCE LEVELING

Introduction

Resource leveling is a technique in project management that overlooks resource allocation and resolves possible conflict arising from over-allocation. When project managers undertake a project, they need to plan their resources accordingly.

This will benefit the organization without having to face conflicts and not being able to deliver on time. Resource leveling is considered one of the key elements to resource management in the organization.

An organization starts to face problems if resources are not allocated properly i.e., some resource may be over-allocated whilst others will be under-allocated. Both will bring about a financial risk to the organization.

The Two Key Elements of Resource leveling

As the main aim of resource leveling is to allocate resource efficiently, so that the project can be completed in the given time period. Hence, resource leveling can be broken down into two main areas; projects that can be completed by using up all resources, which are available and projects that can be completed with limited resources.

Projects, which use limited resources can be extended for over a period of time until the resources required are available. If then again, the number of projects that an organization undertakes exceeds the resources available, then it's wiser to postpone the project for a later date.

Structure of Resource leveling

Many organizations have a structured hierarchy of resource leveling. A work-based structure is as follows:

- Stage
- Phase
- Task/Deliverable

All of the above-mentioned layers will determine the scope of the project and find ways to organize tasks across the team. This will make it easier for the project team to complete the tasks.

In addition, depending on the three parameters above, the level of the resources required *seniority*, *experience*, *skills*, *etc.* may be different. Therefore, the resource requirement for a project is always a variable, which is corresponding to the above structure.

Establishing Dependencies

The main reason for a project manager to establish dependencies is to ensure that tasks get executed properly. By identifying correct dependencies from that of incorrect dependencies allows the project to be completed within the set timeframe.

Here are some of the constraints that a project manager will come across during the project execution cycle. The constraints a project manager will face can be categorized into three categories.

- **Mandatory -** These constraints arise due to physical limitations such as experiments.
- **Discretionary -** These are constraints based on preferences or decisions taken by teams.
- **External -** Often based on needs or desires involving a third party.

The Process of Assigning Resources

For resource leveling to take place, resources are delegated with tasks *deliverables*, which needs execution. During the starting phase of a project, idealistically the roles are assigned to resources *humanresources* at which point the resources are not identified.

Later, these roles are assigned to specific tasks, which require specialization.

Leveling of Resources

Resource leveling helps an organization to make use of the available resources to the maximum. The idea behind resource leveling is to reduce wastage of resources i.e., to stop over-allocation of resources.

Project manager will identify time that is unused by a resource and will take measures to prevent it or making an advantage out of it.

By resource conflicts, there are numerous disadvantages suffered by the organization, such as:

- Delay in certain tasks being completed
- Difficulty in assigning a different resource
- Unable to change task dependencies
- To remove certain tasks
- To add more tasks
- Overall delays and budget overruns of projects

Resource leveling Techniques

Critical path is a common type of technique used by project managers when it comes to resource leveling. The critical path represents for both the longest and shortest time duration paths in the network diagram to complete the project.

However, apart from the widely used critical path concept, project managers use fast tracking and crashing if things get out of hand.

- **Fast tracking -** This performs critical path tasks. This buys time. The prominent feature of this technique is that although the work is completed for the moment, possibility of rework is higher.
- **Crashing -** This refers to assigning resources in addition to existing resources to get work done faster, associated with additional cost such as labor, equipment, etc.

Conclusion

Resource leveling is aimed at increasing efficiency when undertaking projects by utilizing the resources available at hand. Proper resource leveling will not result in heavy expenditure.

The project manager needs to take into account several factors and identify critical to non-critical

dependencies to avoid any last minute delays of the project deliverables.

STAFFING MANAGEMENT PLAN

Introduction

Regardless of what you do in an organization, a staff is required in order to execute work tasks and activities. If you are a project manager, you need to have an adequate staff for executing your project activities.

Just having the required number of staff members for your project will not help you to successfully execute the project activities. These staff members selected for your project should have necessary skills to execute the project responsibilities as well. In addition, they should have the necessary motivation and availability as well.

Therefore, staffing of your project should be done methodologically with a proper and accurate plan.

Understanding the Purpose

Before you start staffing your project, you need to understand the purpose of your project. First of all, you need to understand the business goals for the project and other related objectives. Without you being clear about the end results, you may not be able to staff the best resources for your project.

Spend some time brainstorming about your project purpose and then try to understand the related staffing requirements. Understand the different skills required for project execution, in order to understand what kind of staff you want.

Be Precise

Be precise when you prepare your staffing management plan. Make your staffing plan in black and white. Do not include things just to make the people happy. Always include the truth in your plan in a bold way. Whenever required, emphasize the roles and responsibilities of the staff and organizational policies as well.

The workforce should be disciplined in order to execute a project successfully. Therefore, you need to include discipline requirements to the staffing plan as well.

Use a Good Template

When it comes to articulating the plan, you need to use a good template for that. First of all, there are chances that you can find a suitable one from your organization itself. Talk to your peers and see whether there are templates that they have used in the past. In case if your organization has a knowledge management system, search for a template there.

Once you get a good template, articulate everything in simple language. The audience of the plan is the management and the staff. Therefore, articulation should be clear and simple.

Making the Connection

Connecting with your staff is the key. By properly connecting, you can measure them for their skills and attitude.

Interviewing the staff members is the best way to properly engaging with them. By doing this, you can measure their skills and you can see whether they are suitable for your project requirements. For interviews, you can come up with an interview schedule and a set of critical questions you may want to ask.

In case there are things you cannot uncover through interviews, ask assistance from HR.

Training

Before you start staffing for the project, you need to know what skills required for your project. This way, you can measure the skills of your potential staff during the interviews. In most instances, you

will not find all the staff members with desired skills.

In such cases, you will have to request for trainings from the training department. Get applicable staff members trained on required skills in advance to the project commencement.

Rewards and Consequences

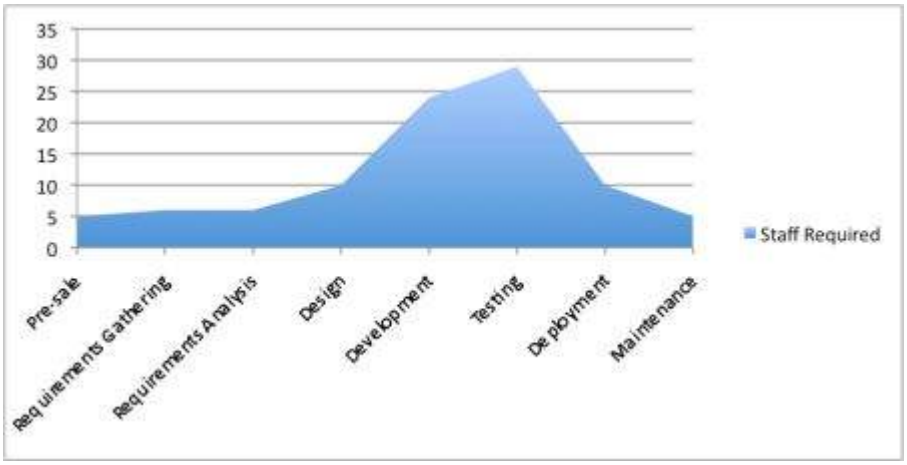
Staffing management plan should be crystal clear about the staff rewards as well as the consequences. The plan should illustrate the rewards in detail and how a staff member or the entire staff becomes eligible for rewards.

As an example, early delivery of projects is rewarded by paying a bonus to the staff members, who are involved in the project. This is one of the best ways to keep the staff motivation and focused on the project activities.

Considerations

In addition to the above areas, there can be additional considerations. One might be the duration of your staffing requirement. It's very rare that a project will require all the staff during the entire project life cycle.

Usually, the staffing requirement varies during different phases of the project. Refer to the following diagram in order to identify the staff variation.



Usually, during the initial phases of the project, the project requires only a limited number of staff members. When it comes to development or construction, it may need a lot. Again, when it reaches the end, it will require a less number of staff.

Conclusion

Staffing management plan for a project plays a critical role in project management. Since resources are the most critical factor for executing the project activities, you should be clear about your staffing requirements.

Once you know what you want, derive the plan to address the same.

STAKEHOLDER MANAGEMENT

Introduction

When working on a project, there are many people or organizations that are dependent on and/or are affected by the final product or output. These people are the stakeholders of a project.

Stakeholder management involves taking into consideration the different interests and values stakeholders have and addressing them during the duration of the project to ensure that all stakeholders are happy at the end.

This branch of management is important because it helps an organization to achieve its strategic objectives by involving both the external and internal environments and by creating a positive relationship with stakeholders through good management of their expectations.

Stakeholder management is also important because it helps identify positive existing relationships with stakeholders. These relationships can be converted to coalitions and partnerships, which go on to build trust and encourage collaboration among the stakeholders.

How Does Stakeholder Management Work?

Stakeholder management, in a business project sense, works through a strategy. This strategy is created using information gathered through the following processes:

- **Stakeholder Identification -** It is first important to note all the stakeholders involved, whether internal or external. An ideal way to do this is by creating a stakeholder map.
- **Stakeholder Analysis -** Through stakeholder analysis, it is the manager's job to identify a stakeholder's needs, interfaces, expectations, authority and common relationship.
- **Stakeholder Matrix -** During this process, managers position stakeholders using information gathered during the stakeholder analysis process. Stakeholders are positioned according to their level of influence or enrichment they provide to the project.
- **Stakeholder Engagement -** This is one of the most important processes of stakeholder management where all stakeholders engage with the manager to get to know each other and understand each other better, at an executive level.

  This communication is important for it gives both the manager and stakeholder a chance to discuss and concur upon expectations and most importantly agree on a common set of Values and Principals, which all stakeholders will stand by.
- **Communicating Information -** Here, expectations of communication are agreed upon and the manner in which communication is managed between the stakeholders is established, that is, how and when communication is received and who receives it.
- **Stakeholder Agreements -** This is the Lexicon of the project or the objectives set forth. All key stakeholders sign this stakeholder agreement, which is a collection of all the agreed decisions.

In today's modern management project practice, managers and stakeholders favor an honest and transparent stakeholder relationship.

Failures in Stakeholder Management

Some organizations still endure poor stakeholder management practices and this arises because of:

- Communicating with a stakeholder too late. This does not allow for ample revision of stakeholder expectations and hence their views may not be taken into consideration.
- Inviting stakeholders to take part in the decision making process too early. This results in a complicated decision making process.
- Involving the wrong stakeholders in a project. This results in a reduction in the value of their contribution and this leads to external criticism in the end.
- The management does not value the contribution of stakeholders. Their participation is viewed as unimportant and inconsequential.

Whatever way stakeholder management is approached, it should be done attentively so as to achieve the best results.

Achieving Good Stakeholder Management

Insufficient involvement and ineffective communication with stakeholders can lead to project failure. The following are a few ideas that can be used to achieve good stakeholder management practices:

- Management and stakeholders should work together to draw up a realistic list of goals and objectives. Engaging stakeholders will improve business performance and they take an

active interest in the project.

- Communication is the key. It is important for stakeholders and management to communicate throughout the course of the project on a regular basis. This ensures that both parties will be actively engaged and ensure smooth sailing during the course of the project.
- Agreeing on deliverables is important. This makes sure there is no undue disappointment at the end. Prototypes and samples during the course of the project helps stakeholders have a clear understanding regarding the end project.

Conclusion

In conclusion, in order to achieve an outcome from the projects, good stakeholder management practices are required. Stakeholder management is the effective management of all participants in a project, be it external or internal contributors.

Arguably, the most important element in stakeholder management is communication where a manager has to spend his 99% time in doing meetings, checking and replying e-mails and updating and distributing reports, etc.

STATEMENT OF WORK *SOW*

Introduction

When it comes to implementing or constructing large and complex systems *suchasanenterprisesoftwaresystem*, the work requirements and conditions should be properly documented. Statement of Work *SOW* is such document that describes what needs to be done in the agreed contract.

Usually, the SOW is written in a precise and definitive language that is relevant to the field of business. This prevents any misinterpretations of terms and requirements.

An SOW covers the work requirements for a specific project and addresses the performance and design requirements at the same time.

Whenever requirements are detailed or contained within a supplementary document, SOW makes reference to the specific document.

The SOW defines the scope and the working agreements between two parties, typically between a client and a service provider. Therefore, SOW carries a legal gravity as well.

Purpose of SOW

The main purpose of a SOW is to define the liabilities, responsibilities and work agreements between clients and service providers.

A well-written SOW will define the scope of the engagement and Key Performance Indicators *KPIs* for the engagement.

Therefore, the KPIs can be used to determine whether the service provider has met conditions of the SOW and use it as a baseline for future engagements.

SOW contains all details of non-specifications requirements of the contractor or service provider's effort. Whenever specifications are involved, the references are made from SOW to specific specification documents.

These specification documents can be functional requirements or non-functional requirements.

Functional requirements *inasoftwaresystem* define how the software should behave functionally and non-functional requirements detail other characteristics of the software such as performance, security, maintainability, configuration management, etc.

Format of SOW

The SOW formats differ from one industry to another. Regardless of the industry, some key areas of the SOW are common. Following are the commonly addressed areas in a SOW:

1. Scope

This section describes the work to be done in a technical manner. If the system to be built is a software system, this section defines the hardware and software requirements along with the exact work to be done in terms of the final system.

If there is anything 'out of scope', those areas are also mentioned under a suitable subheading.

2. Location

The location where the work is performed is mentioned under this section. This section also details the hardware and software specifications. In addition to that, a description about human resources and how they work are addressed here.

3. Timelines

This defines the timeline allocated for the projects. It includes the development time, warranty time and maintenance time. In addition to calendar time, the man days *totaleffort* required to complete the project is also noted.

4. Delivery schedule

This section of the SOW describes the deliveries and the due dates for the deliveries.

5. Standards

The standards *internalorexternal* are defined in this section. All deliveries and work done should comply with the standards defined in this section of the document.

6. Acceptance Criteria

This section defines the minimum requirements for accepting deliverables. It also describes the criteria used for acceptance.

7. Mode of contract and payments

There are a number of engagement models when it comes to contracting a service provider.

In the domain of software development, there are two distinct contract models, fixed bid and a retainer.

In fixed bid, the project cost is a constant and it is up to the service provider to optimize the resource allocation in order to maintain the profit margins.

The client does not worry about the number of resources, as long as the delivery schedule is met. In the retainer model, the client pays for the number of resources allocated to the project.

Since SOW is an integrated part of a project, almost all senior members of the project team should become aware of terms and conditions of the SOW. Sometimes, especially in software development projects, a penalty is applied if the delivery dates are missed. Therefore, everyone should be aware of such demanding terms of a SOW.

Conclusion

SOW is a critical document for project management. It defines the scope of the work and the work agreements. Therefore, all stakeholders of the project should have a thorough understanding of the SOW of the project and adhere to it.

STRESS MANAGEMENT TECHNIQUES

Introduction

Whatever kind of job one is involved in, you would always find several factors that lead to severe stress.

It is not uncommon today, with everyone worrying about whether the state of the economy and high employment rates would mean that they are the next to losing their jobs. Like any other management technique, stress management too is very vital for the success of any organization.

If the employees of an organization are unable to work efficiently and be productive, it is the organization that would eventually collapse. It is therefore essential that stress management techniques are understood by all the stakeholders of any organization.

What Leads to Stress?

It isn't easy to point on just one or two causes of stress. There are several factors that could contribute towards a person suffering from all sorts of stress.

You must understand what causes stress if you are to efficiently try and reduce stress from your lifestyle.

Most often, employees find themselves in a state of confusion as to what their job entails and they may even worry as to whether they might lose their jobs given the current economic situation. This could lead to a lot of stress in the workplace.

Increased pressure from employers could also make an employee work too hard and maybe even work overtime in an attempt to impress the employer or outdo another employee.

There are of course other reasons that could contribute to individual employees suffering from severe stress outside the workplace such as family problems, health-related issues and so on.

Failure to understand and eliminate these elements that cause the stress could eventually lead to dire consequences. These elements are generally known as stressors and are found in plenty in the workplace.

It is not only the employees, who need to identify these stressors, but also the organization itself would need to take relevant steps.

How to Reduce Stress?

It is of utmost importance that an organization takes this issue seriously. The organization can help reduce stress by:

- Reducing the number of hours for which their employees would have to work per week. This will, in the long run, contribute to a more efficient functioning of the organization, as employees would have more time to rest at home and will come back the next day feeling refreshed.

  Working hours should be flexible. This may also include shifts and the rotation of employees.

- A tried and tested technique that many organizations have begun using is the provision of lounges and other recreational facilities to help employees relax during the day should they require some time off.

  You may even choose to add refreshments and a TV so that they could forget all the worries of work for a few minutes. Investing in such facilities is a great idea for any organization. You may also allow them to take more holidays throughout the year to ensure that they have a good break.

- Female employees may find that they do not have enough time to spend with their newborn if they have just had a baby.

  You should make allowance for such situations. Providing longer maternity leave could help your female employee to come back to work without having too much on her mind with regard to the baby and any postnatal depression.

  Another idea would be to provide childcare facilities at the office so that mothers with young children could peep in and ensure their kids are okay every few hours.

- As an employee, you should also make it a point to occasionally have a casual chat with your employees to ensure that they are satisfied with their jobs and have no issues at work.

  You should also encourage them and appreciate and praise him/her for tasks carried out very well. This would reduce any worries they may have of the risks of losing their jobs and help them to feel more secure.

Tips on Coping with Stress

If you are suffering from stress and have identified some of the causes, you should try different techniques to help you cope with the pressure or problems that you face.

Being positive and remaining calm would take you a very long way. Try not to worry about insignificant matters.

If you have any queries or any work-related problems, you should always take it up with your employer and try and get the issue sorted out.

It is important to keep in mind that you should take regular breaks while at work and even after you get home.

You can relieve yourself of most of the stress by taking part in relaxing activities, be it yoga or simply curling up on the couch with a good book and a cup of coffee.

Create a schedule and plan out how you would balance both your work life and family life without letting one overtake the other.

You would find that you are more relaxed this way and would actually look forward to going to work the next day.

Of course, nothing can beat a good night's sleep and a healthy lifestyle and diet.

Conclusion

Although most work-related worries may seem too huge to shake off, once you master the art of coping with stress and are able to get rid of any negative thoughts, you would find that peace would come to you naturally.

STRUCTURED BRAINSTORMING

Introduction

This is a systematic process, which encourages participants to actively involve by contributing ideas in a non critical or non-evaluative environment.

Structured brainstorming sessions are undertaken by organizations to find solution to problems that persists in a work environment. Many successful organizations use structured brainstorming as key tool when it comes to decision making.

Benefits of Structured Brainstorming

The primary benefit of structured brainstorming is that it's a collaboration of ideas. However, there's a difference between structured brainstorming and unstructured brainstorming.

In structured brainstorming, the participants are given guidelines and rules to follow, so that the input from the sessions is in an orderly manner and constructive.

When it comes to unstructured brainstorming, there are many ideas by participants, but the brainstorming session may not be leading towards any specific goal.

The benefits gained from structured brainstorming are as follows:

- A collection of ideas from the team members with regards to a particular issue or a problem will prove to be more successful.
- Opens up a new culture within the organization where team members are free to voice their

ideas.

- It further prevents dominant team members from taking the lead and giving the rest of the team members an unfair chance.
- Promotes synergy among team members.
- Helps the team members to come up with ideas to achieve the mission at hand.

Steps in Structured Brainstorming

Structured brainstorming can prove to be difficult as input comes from various team members. Hence, the following steps can be followed to ensure that constructive results can be obtained at the end.

- State clearly the objective/theme behind the structured brainstorming. Make sure that each participant is fully aware of what is expected from the brainstorming session. This will save time and energy of the team.
- Give each team member a chance to demonstrate or voice his/her idea.
- During structured brainstorming, advise that team members are not allowed to criticize one another's opinion or idea. This promotes freedom of sharing one's idea without hesitation.
- Repeat the round until the team members do not have any more ideas or solutions.
- Review the input from each team member and discard any duplicate input.

Dos and Don'ts of Structured Brainstorming

A bad structured brainstorming session will cost your organization money, energy and time if the objective of the brainstorming session is not met. This may cause detrimental factors, which trigger to loss of projects, etc.

Hence, here are some methods for successful brainstorming to be used in your organization.

- Focus is crucial when it comes to structured brainstorming session. Sharpen the concentration levels of the participants. You can use some exercises at the beginning of the session in order to increase the focus of the participants.
- Instead of writing down arbitrary rules, positivity with playfulness helps.
- State the number of ideas.
- Build and jump.
- Make the space remember.
- Stretch mental muscles.
- Get practical.

Talk and brainstorm about all the possibilities/causes etc., for the problem at hand. Never miss an idea. Have someone recording the brainstorming session.

Tools for Structured Brainstorming

SWOT Analysis & PEST Analysis are very effective tools for structured brainstorming.

SWOT analysis is a useful tool when it comes to decision making. SWOT stands for Strengths, Weakness, Opportunities and Threats. Brainstorming sessions often use SWOT as an analysis tool for reviewing strategies. SWOT analysis is used to assess the following factors:

- Market capitalization
- Sales distribution methods
- A brand or a product

- A business idea
- A strategy e.g., entering new markets
- A department of the organization

PEST analysis refers to Political, Economical, Social and Technology. PEST analysis is also often used in brainstorming sessions to understand the market position of an organization. PEST can be used under the following reasons:

- An organization analyzing its market
- A product accessing its market
- Assessing a particular brand in relation to a market
- A newly venturing business
- For new strategies based on entering a market
- For an acquisition
- For an investment opportunity

Post-Structured Brainstorming

Once you have completed the brainstorming session, the following needs to be done:

- Reduce the list of ideas given based on the agreed priority
- Mix the points, which are similar in nature together
- Discussion is crucial, merits to be given for each feedback
- Eradicate ideas that are not relevant to the topic
- Give the team members a chance to jot down ideas if they have any and communicate later

Conclusion

Structured brainstorming is a technique used to generate ideas, which can help to solve a problem. Structured brainstorming helps to encourage creative thinking and enthusiasm between team members.

It also encourages freewill to accept each other's thoughts.

SUCCESSION PLANNING

Introduction

Succession planning is one of the most critical functions of an organization. This is the process that identifies the critical and core roles of an organization and identifies and assesses the suitable candidates for the same.

The succession planning process ramps up potential candidates with appropriate skills and experiences in an effort to train them to handle future responsibilities in their respective roles.

Succession planning is applicable for all critical roles in the organization. The upper management of each practice or department is responsible of coming up with a suitable succession plan for each core position under his or her department.

Steps of Succession Planning

There are four main important steps in planning for succession.

Step 1: Recruitment and staffing

This is one of the key steps of the succession planning. Hiring the right and skilled employees is the key to growing human resources in the organization. Sometimes, some companies require a paradigm shift in order to retain in the business.

In such cases, the organization requires to let go or redefine the roles and responsibilities of the portion of existing staff. Then, the organization hires the new blood in order to acquire the required skills and expertise.

When it comes to succession planning, organization should always hire people, who will have the potential to go up the corporate ladder.

Step 2: Training and development

All the organizational training can come under two categories; skills training and management training.

- **Skills training:** Employees are trained to enhance their skills, so their day-to-day work becomes easy.
- **Management training:** A selected set of employees undergoes training where they are trained to take over management responsibilities.

Step 3: Compensation and performance management

Based on their performance, the employees, who have the potential to become leaders in the organization should be appropriately compensated.

These employees should be considered for fast track promotions and special compensation benefits.

Step 4: Talent management

Talent management is one of the key factors that contribute for succession planning. The right candidate will have the required level of skills in order to execute responsibilities of the new role.

The upper management and mentors of the staff member should always make sure that the employee is constantly enhancing his/her skills by accepting challenging responsibilities.

Typical Activities in Succession Planning

Succession planning has many activities involved. Some of these activities are sequential and others can be performed in parallel to others.

Following are the core activities involved in succession planning.

- Identification of the critical roles for the growth of the company. There are many tools such as Pareto charts in case if you need any assistance in prioritizing the roles.
- Identification of gaps in the succession planning process. In this step, the process of succession planning is analyzed for its strength. If there are weaknesses and gaps, they will be methodologically addressed.
- In this step, the possible candidates for the potential role will be identified. This will be done by analyzing their past performances as well and for some other characteristics such as age.
- All short-listed employees for potential roles will be then educated about their career path. The employees should understand that they are being trained and their skills are being developed in order to fill critical roles in the organization.
- When it comes to training and developing people, they should be developed for the positions that exist in the company as well as the positions *roles* that will be introduced in the future.
- Have a clear understanding of the timeline required for filling key roles. For this, an understanding of when key roles will be vacant is necessary.
- Conduct regular meetings on the succession plans of the organization.
- Identify top players of every department and make necessary arrangements to keep them in the company for a long time.
- Review past succession that took place based on the succession plan and review success. If there are issues, make necessary changes to the succession plan.

Conclusion

Every organization requires succession planning. By succession planning, organization's key roles are constantly maintained with talented people, so organizations can maintain its strength.

When selecting people for key roles, their adherence to organization's mission and vision is important. This is how visionary leaders are sprung in organizations with commitment for the company's growth.

SUPPLY CHAIN MANAGEMENT

Introduction

In an organization, if a product is manufactured using raw materials from various suppliers and if these products are sold to customers, a supply chain is created.

Depending on the size of the organization and the number of products that are manufactured, a supply chain may be complex or simple.

Supply Chain Management refers to the management of an interconnected network of businesses involved in the ultimate delivery of goods and services to customers.

It entails the storage and transport of raw materials, the process of inventory and the storage and transportation of the final goods from the point of manufacture to the point of consumption.

Different Links in the Supply Chain

- **Customer -** The start of the supply chain is the customer. The customer decides to purchase a product and in turn contacts the sales department of a company. A sales order is completed with the date of delivery and the quantity of the product requested. It may also include a segment for the production facility depending on whether the product is available in stock or not.
- **Planning -** Once the customer has made his/her sales order, the planning department will create a production plan to produce the product adhering to the needs of the customer. At this stage, the planning department will be aware of raw materials needed.

- **Purchasing -** If raw materials are required, the purchasing department will be notified and they in turn send purchasing orders to the suppliers asking for the deliverance of a specific quantity of raw materials on the required date.
- **Inventory -** Once the raw materials have been delivered, they are checked for quality and accuracy and then stored in a warehouse till they are required by the production department.
- **Production -** Raw materials are moved to the production site, according to the specifics laid out in the production plan. The products required by the customer are now manufactured using the raw materials supplied by the suppliers. The completed products are then tested and moved back to the warehouse depending on the date of delivery required by the customer.
- **Transportation -** When the finished product is moved into storage, the shipping department or the transportation department determines when the product leaves the warehouse to reach the customer on time.

Levels of Activities in the Supply Chain

In order to make sure that the above supply chain is running smoothly and also to ensure maximum customer satisfaction at the lowest possible cost, organizations adopt supply chain management processes and various technologies to assist in these processes.

There are three levels of activities Supply Chain Management in that different departments of an organization focus on to achieve the smooth running of the supply chain. They are:

- **Strategic -** At this level, senior management is involved in the supply chain process and makes decisions that concern the entire organization. Decisions made at this level include the size and site of the production area, the collaborations with suppliers, and the type of that product that is going to be manufactured and so forth.
- **Tactical -** Tactical level of activity focuses on achieving lowest costs for running the supply chain. Some of the ways this is done is by creating a purchasing plan with a preferred suppliers and working with transportation companies for cost effective transport.
- **Operational -** At the operational level, activity decisions are made on a day-to-day basis and these decisions affect how the product shifts along the supply chain. Some of the decisions taken at this level include taking customer orders and the movement of goods from the warehouse to the point of consumption.

Technology and Supply Chain Management

In order to maximize benefits from the supply chain management process, organizations need to invest in technology.

For the optimal working of the supply chain management process, organizations mainly invest in Enterprise Resource Planning suites.

Also, the advancement of Internet technologies allows organizations to adopt Web-based software and Internet communications.

Theories of Supply Chain Management

A number of experts in the field of supply chain management have tried to provide theoretical foundations for some areas of supply chain management by adopting organizational theory.

Some of these theories are:

- Resource-Based View RBV
- Transaction Cost Analysis TCA
- Knowledge-Based View KBV
- Strategic Choice Theory SCT

- Agency Theory AT
- Institutional theory InT
- Systems Theory ST
- Network Perspective NP

Conclusion

Supply Chain Management is a branch of management that involves suppliers, manufacturers, logistic providers, and most importantly, the customers.

The supply chain management process works through the implication of a strategic plan that ensures the desired end product leaving a customer with maximum satisfaction levels at the lowest possible cost.

The activities or the functions involved in this type of management process are divided into three levels: the strategic level, the tactical level and the operational level.

TEAM BUILDING PROGRAM

Introduction

Team building programs can be found everywhere nowadays. Almost all the business organizations send their project teams for team building programs every now and then. But what is a team building program?

In team building programs, the entire program focuses on improving the group dynamics of the target team. Therefore, first of all, all the team members of the group should be present for such team building programs.

Usually, team building programs take various faces and there are a lot of activities included in such programs. Each activity is focused on improving one or more aspects of teamwork. Take trust as an example.

Trust towards other team members is one of the most important aspects when it comes to teamwork. In a corporate environment, you may not get an opportunity to get to know the other team members in detail and build trust in them.

Therefore, team building programs address this matter during the teamwork activities and improve the trust between the team members. A good example is the blinded guidance.

In this exercise, one person is blind-folded and the other person is supposed to take the blind-folded person through a rough terrain, just by guiding through voice.

Benefits for Teamwork

If team building programs are very serious, teamwork should also be a serious matter right? Yes, in order to understand the importance of team building programs, one should first understand the value of teamwork.

Following are the benefits gained through team building programs for teamwork:

- Improved communication with the rest of the team
- Ease the conflicts and frustrations in the workplace and especially within the team
- Enhanced client relationships and conflict resolution
- High team productivity through understanding
- Enhanced management and soft skills
- Enhanced relationships

In addition to the above benefits, there can be many other enhancements to the team culture. If

the team was a brand new team assembled for a new project, the team members will develop a good relationship with others. After a team building program, usually a change in the team dynamics can be observed.

Sending a team for team building programs is not just enough. The management should track the progress of such programs and should send the team again for similar experiences when the effect of the first program is reduced overtime.

The work pressure of the workplace and new comers to the team are two of key reasons for reduced effectiveness that occur overtime.

Types of Team Building Programs

There are many types of team building programs in use. Each type is suitable for addressing certain types of team building requirements. As an example, sending middle-aged employees to a program designed for youth will not create a great result.

Following are some of the most common types of team building programs:

- Corporate conferences
- Executive team building and guidance programs
- Adventure programs
- Outdoor sports
- Game shows
- Youth programs
- Religious or charity programs sponsored by the organization
- Management training programs
- White-water rafting
- Residential workshops

Types of Services

There are two main categories of team building programs; internal and external. Internal team building programs are designed usually by the training and development department of the organization. The events may take place in the workplace or at a location outside of the workplace. In these programs, someone from the organization will conduct the training.

For the next category, an external party is invited to do the team building program. This event may also take place inside the workplace or at an outside location.

When it comes to the effectiveness of the team building programs, usually the programs conducted by outside parties at a remote location are quite successful.

The very feeling of being away from the workplace gives the team a fresh state of mind and they are freer to engage with team building activities.

Conclusion

For any team, regardless of what they should be collectively achieved, team building is a key strength. In order to get the best out of a team, the team should go through team building programs.

Although most of the companies try to conduct indoor programs for this purpose, they deliver less effective results compared to team building events done by 3rd party professionals at remote locations.

TEAM MOTIVATION

Motivation plays an impeccably valuable role in any organization. It is a trait that should be instilled in every employee of an organization, despite their designation or responsibilities. Having stated that, it is imperative that senior management looks at ways of increasing team motivation within an organization.

Team structures may vary depending on the function in an organization that is assigned to a group of people to the mere fact of a group of people belonging to an organization.

Whatever the nature of the team formation is, it is important that such groups of people falling into one or more teams act in harmony and in line with an organization's ultimate goals.

Two Main Approaches for Team Motivation

1. Negative Team Motivation

On the outset you may feel that some managers really enjoy belittling employees and shouting at them all the time.

Such approach to motivation is guided by the fear factor principal and is a very primary approach; one that we know from our childhood. Therefore, the effects of such negative motivational techniques will surely be effective in short term as against the desired result of long term.

Some managers also tend to set unrealistic goals before their teams in hopes of getting team members to work harder and more effectively.

However, as this delusion takes its stance, employees will become understanding of the unrealistic nature of the goals and also will feel demotivated at the same time due to the lack of achievement orientation.

2. Positive Team Motivation

Since the primary approach of negative motivation techniques have not brought about effective results, more and more managers have now turned to positive motivational techniques.

Guiding a team's motivation based on positive reinforcement involves a few steps:

- You will need to understand individual strengths and weaknesses and how these strengths and weaknesses affect the person and his/her team when operating within a team.
- Building self-esteem of both the team and individuals.
- Assigning value to each team member
  e. g. , seekingtheiropinion, sharinginformationandallowingtheircontributiontoplayaroleinteamdecisions.

Dynamics of Team Motivation

1. Don't allow assumptions to rule

So you may evaluate an individual's strengths and weaknesses and may falsely conclude that this person will not function effectively within a team due to his/her personal traits.

But unless otherwise you put this person in a team environment and observe the team dynamics, you wouldn't definitely know the outcome. Therefore, the rule of the thumb for any manager is not to isolate their team members due to assumptions that you may hold.

2. Know that people are different

Secondly, it should be noted that people differ from one another. Therefore, when it comes to team motivation, the managers will need to do certain things to balance out negative effects.

You will be dealing with different personalities therefore, although there are set of rules by which a team operates, your diplomacy and flexibility in operation too will contribute to successful team motivation to be retained.

3. Don't isolate the black sheep

The third factor is not to isolate black sheep. Any family or any organization will have black sheep. These are radical individuals, who seek extra attention.

Therefore, rather than isolating these characters, you will need to be skillful enough to reassure a sense of belonging to such individuals. The truth of the matter is that once such individuals feel secured and important, they will become very loyal to his clan.

4. Understand the psychology behind things

A little bit of psychology goes a long way in motivating teams. You do not need to have studied psychology formally to understand the basic concepts.

However, it would come in handy if you have read about a couple of motivational theories and motivational factors that contribute to human dynamics. When you know underlying factors of a certain concept, you will be better able to address the issue.

5. Lead by example

If you are mentoring a team and if you are trying to build team spirit among the individuals, but if you are not a good spirited individual yourself, it will become extremely difficult for you to get your team to achieve a sense of identity as a team.

So a team should always have someone leading by example in order to become motivated sufficiently.

6. Work and fun equilibrium

And lastly but not in the very least, try to strike a balance between work and fun. Every team needs to engage in work and non-work related activities to build up their spirit.

Therefore, make sure that your team received plenty of opportunities to mingle with one another and share a good laughter. Little things go a long way in human dynamics and such spirits built over a cup of coffee will take your organization a long way at the end of the day.

THE BALANCED SCORECARD

Introduction

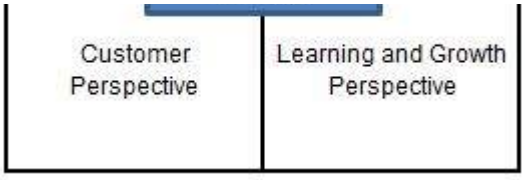
The balance scorecard is used as a strategic planning and a management technique. This is widely used in many organizations, regardless of their scale, to align the organization's performance to its vision and objectives.

The scorecard is also used as a tool, which improves the communication and feedback process between the employees and management and to monitor performance of the organizational objectives.

As the name depicts, the balanced scorecard concept was developed not only to evaluate the financial performance of a business organization, but also to address customer concerns, business process optimization, and enhancement of learning tools and mechanisms.

The Basics of Balanced Scorecard

Following is the simplest illustration of the concept of balanced scorecard. The four boxes represent the main areas of consideration under balanced scorecard. All four main areas of consideration are bound by the business organization's vision and strategy.



The balanced scorecard is divided into four main areas and a successful organization is one that finds the right balance between these areas.

Each area *perspective* represents a different aspect of the business organization in order to operate at optimal capacity.

- **Financial Perspective -** This consists of costs or measurement involved, in terms of rate of return on capital *ROI* employed and operating income of the organization.
- **Customer Perspective -** Measures the level of customer satisfaction, customer retention and market share held by the organization.
- **Business Process Perspective -** This consists of measures such as cost and quality related to the business processes.
- **Learning and Growth Perspective -** Consists of measures such as employee satisfaction, employee retention and knowledge management.

The four perspectives are interrelated. Therefore, they do not function independently. In real-world situations, organizations need one or more perspectives combined together to achieve its business objectives.

For example, Customer Perspective is needed to determine the Financial Perspective, which in turn can be used to improve the Learning and Growth Perspective.

Features of Balanced Scorecard

From the above diagram, you will see that there are four perspectives on a balanced scorecard. Each of these four perspectives should be considered with respect to the following factors.

When it comes to defining and assessing the four perspectives, following factors are used:

- **Objectives -** This reflects the organization's objectives such as profitability or market share.
- **Measures -** Based on the objectives, measures will be put in place to gauge the progress of achieving objectives.
- **Targets -** This could be department based or overall as a company. There will be specific targets that have been set to achieve the measures.
- **Initiatives -** These could be classified as actions that are taken to meet the objectives.

A Tool of Strategic Management

The objective of the balanced scorecard was to create a system, which could measure the performance of an organization and to improve any back lags that occur.

The popularity of the balanced scorecard increased over time due to its logical process and methods. Hence, it became a management strategy, which could be used across various functions within an organization.

The balanced scorecard helped the management to understand its objectives and roles in the bigger picture. It also helps management team to measure the performance in terms of quantity.

The balanced scorecard also plays a vital role when it comes to communication of strategic objectives.

One of the main reasons for many organizations to be unsuccessful is that they fail to understand and adhere to the objectives that have been set for the organization.

The balanced scorecard provides a solution for this by breaking down objectives and making it

easier for management and employees to understand.

Planning, setting targets and aligning strategy are two of the key areas where the balanced scorecard can contribute. Targets are set out for each of the four perspectives in terms of long-term objectives.

However, these targets are mostly achievable even in the short run. Measures are taken in align with achieving the targets.

Strategic feedback and learning is the next area, where the balanced scorecard plays a role. In strategic feedback and learning, the management gets up-to-date reviews regarding the success of the plan and the performance of the strategy.

The Need for a Balanced Scorecard

Following are some of the points that describe the need for implementing a balanced scorecard:

- Increases the focus on the business strategy and its outcomes.
- Leads to improvised organizational performance through measurements.
- Align the workforce to meet the organization's strategy on a day-to-day basis.
- Targeting the key determinants or drivers of future performance.
- Improves the level of communication in relation to the organization's strategy and vision.
- Helps to prioritize projects according to the timeframe and other priority factors.

Conclusion

As the name denotes, balanced scorecard creates a right balance between the components of organization's objectives and vision.

It's a mechanism that helps the management to track down the performance of the organization and can be used as a management strategy.

It provides an extensive overview of a company's objectives rather than limiting itself only to financial values.

This creates a strong brand name amongst its existing and potential customers and a reputation amongst the organization's workforce.

THE HALO EFFECT

Introduction

The halo effect has a close relationship with marketing. Marketing is the number one field where halo effect is successfully used.

Halo effect simply explains the biasness showed by customers to certain products or services based on some favourable or pleasant experience with some other products or services offered by the same manufacturer.

Let's take an example. Apple introduced the iPod some years ago and it was creative in its functions and design. Apple iPod introduced a gateway to novel thinking and extremely eye-pleasing experience for iPod users.

The positive perception about Apple's iPod then had a positive effect on other Apple products. With the introduction of iPod, Apple noticed a high demand and increased sales for rest of their products.

This is again common in the automotive industry. An automaker may introduce a halo vehicle in order to create positive perception of their products in the hope of increasing sales of their other vehicle models as well. The halo cars are mostly sports cars that are mostly related to eye-pleasing designs, superior performance and technology.

Reverse of Halo Effect

Halo effect has its drawbacks as well. Although one halo product can make a huge difference in sales, one bad product can also ruin the reputation of an entire company. This is the reverse of halo effect.

Toyoto Prius, the hybrid car, is one of the best examples of reverse halo effect in the recent times. Toyota is usually considered as the best quality car manufacturer in Japan.

But recently, an issue cropped up with the latest Prius model where, it had a faulty accelerator pad. Due to this issue, Prius gas pedal could jam once pressed hard and could lead to accidents as well. Once this was uncovered by a few customers, Toyota recalled thousands of Prius cars to replace the faulty gas pedal.

The issue did not stop there. Customers then started noticing similar problems, not essentially related to the gas pedals, in other, more established models, where there were no issues reported earlier. This is an incident describing reverse halo effect. Sometimes, this is also called cannibalization.

Unconscious Judgements

Halo effect is best described using the concept of unconscious judgement. When we judge something, we may run through an analysis and critical thinking. But, there is part of judgement which is done unconsciously.

We are not consciously aware of this judgement process. This is why we cannot explain why we are attracted to certain products from certain companies more than the same products from other companies.

Conclusion

The halo effect is one of the best tools for marketing. Marketing concepts and strategies employ the halo effect in order to get the best results when it comes to promoting products and services.

Although a halo product or a service is used for making a positive impact on a customer's mind in order to sell rest of the goods or services, sometimes other techniques are also used. One of the popular tricks is to use 'go green' or 'save environment' themes to create a positive perception among the customers.

The pleasant experience the customer may have with such campaigns may be useful for selling more products and services to them.

Although halo effect is useful and advantageous for businesses, it is not quite beneficial for the end customers. Judging a product or service by some other product or service from the same manufacturer may mislead them in their buying process.

In such cases, people do not assess the pros and cons of the product or the service they want to buy. Instead they allow the perceptions to influence their buying decision.

THE MAKE OR BUY DECISION

Introduction

Are you outsourcing enough? This was one of the main questions asked by management consultants during the outsourcing boom. Outsourcing was viewed as one of the best ways of getting things done for a fraction of the original cost.

Outsourcing is closely related to make or buy decision. The corporations made decisions on what to make internally and what to buy from outside in order to maximize the profit margins.

As a result of this, the organizational functions were divided into segments and some of those functions were outsourced to expert companies, who can do the same job for much less cost.

Make or buy decision is always a valid concept in business. No organization should attempt to make something by their own, when they stand the opportunity to buy the same for much less

price.

This is why most of the electronic items manufactured and software systems developed in the Asia, on behalf of the organizations in the USA and Europe.

Four Numbers You Should Know

When you are supposed to make a make-or-buy decision, there are four numbers you need to be aware of. Your decision will be based on the values of these four numbers. Let's have a look at the numbers now. They are quite self-explanatory.

- The volume
- The fixed cost of making
- Per-unit direct cost when making
- Per-unit cost when buying

Now, there are two formulas that use the above numbers. They are 'Cost to Buy' and 'Cost to Make'. The higher value loses and the decision maker can go ahead with the less costly solution.

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Cost to Buy (CTB) = Volume x Per-unit cost when buying
Cost to Make (CTM) = Fixed costs + (Per-unit direct cost x volume)
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Reasons for Making

There are number of reasons a company would consider when it comes to making in-house. Following are a few:

- Cost concerns
- Desire to expand the manufacturing focus
- Need of direct control over the product
- Intellectual property concerns
- Quality control concerns
- Supplier unreliability
- Lack of competent suppliers
- Volume too small to get a supplier attracted
- Reduction of logistic costs *shippingetc.*
- To maintain a backup source
- Political and environment reasons
- Organizational pride

Reasons for Buying

Following are some of the reasons companies may consider when it comes to buying from a supplier:

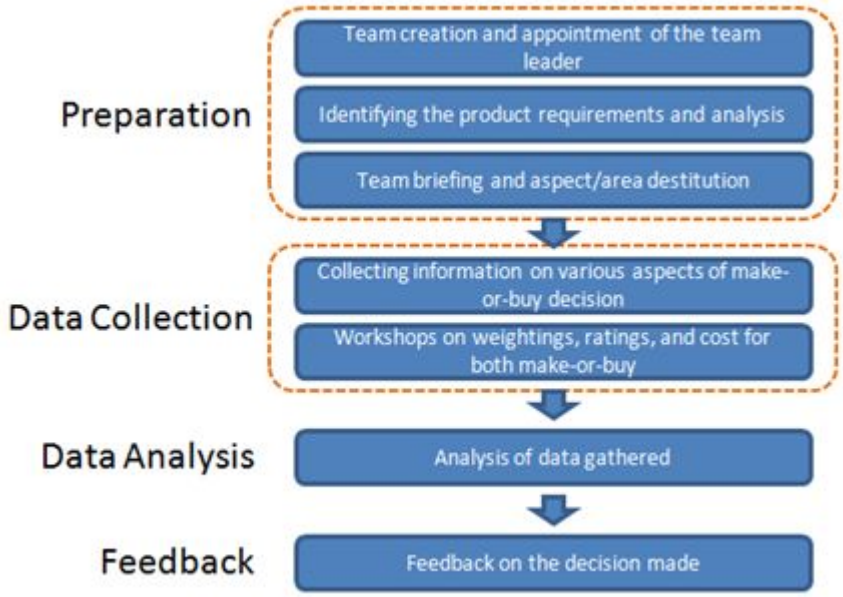
- Lack of technical experience
- Supplier's expertise on the technical areas and the domain
- Cost considerations
- Need of small volume
- Insufficient capacity to produce in-house
- Brand preferences

- Strategic partnerships

The Process

The make or buy decision can be in many scales. If the decision is small in nature and has less impact on the business, then even one person can make the decision. The person can consider the pros and cons between making and buying and finally arrive at a decision.

When it comes to larger and high impact decisions, usually organizations follow a standard method to arrive at a decision. This method can be divided into four main stages as below.



1. Preparation

- Team creation and appointment of the team leader
- Identifying the product requirements and analysis
- Team briefing and aspect/area destitution

2. Data Collection

- Collecting information on various aspects of make-or-buy decision
- Workshops on weightings, ratings, and cost for both make-or-buy

3. Data Analysis

- Analysis of data gathered

4. Feedback

- Feedback on the decision made

By following the above structured process, the organization can make an informed decision on make-or-buy. Although this is a standard process for making the make-or-buy decision, the organizations can have their own varieties.

Conclusion

Make-or-buy decision is one of the key techniques for management practice. Due to the global outsourcing, make-or-buy decision making has become popular and frequent.

Since the manufacturing and services industries have been diversified across the globe, there are a number of suppliers offering products and services for a fraction of the original price. This has

enhanced the global product and service markets by giving the consumer the eventual advantage.

If you make a make-or-buy decision that can create a high impact, always use a process for doing that. When such a process is followed, the activities are transparent and the decisions are made for the best interest of the company.

THE RULE OF SEVEN

Introduction

The rule of seven is one of the oldest concepts in marketing. Although it is old, it doesn't mean that it is outdated. The rule of seven simply says that the prospective buyer should hear or see the marketing message at least seven times before they buy it from you. There may be many reasons why number seven is used. Why not rule of six or rule of eight?

Traditionally, number seven have been given precedence over other numbers by many cultures. Therefore, you may notice various things coming in number seven.

The important thing in the rule of seven is not the number, but the message. This simply tells you that you need to let the prospect hear and see your marketing message so many times before they buy it. There are many reasons for the need of repetition. Buyers just can't trust you and make the buying decision at the first time you show your message.

So, this simply means that your marketing effort should be repetitive and consistent. You cannot just run a couple of advertisements one time and expect the customers to buy the product. The hidden message of rule of seven is the continuous and repetitive effort that should be put in for marketing.

What Can You Do?

In order to enhance your marketing through the message of rule of seven, consider the following points:

1. The Noise

Today's world is an information world. People are overloaded with information. People have access to the best information source at all times, so you cannot fool them at all.

If you want to convey your marketing message to the people, who have been bombarded with information, you are having tough luck. It is never easy for a person or a company to be heard by the prospective buyers. For this, you may want to use some special tricks and strategies.

Due to the above reason, one should repeat their marketing message. In the first few times, a person will not notice the message. People are usually resistant to marketing messages by nature. Otherwise, people will be overwhelmed by the noise made by the marketing companies.

You have to compete in this noisy market. So, you need to repeat your message until they hear you out.

2. Customers may not need your product

You may be targeting the exact type of customers for your product or service. But there are chances that they may not need your product yet. In case if they see your marketing message once, they may not remember you when they want to buy the product by next week or next month. Therefore, you need to keep your marketing message in sight. Out of sight for marketing is out of mind.

Let me take an example. Most people do see and hear about great products or service and they make a mental note that they will buy those when they need it. But in reality, when they buy the actual product, they go with the latest marketing message they heard or saw. That's why you need to keep playing your record.

3. The price may be too high

Sometimes, people do not buy things due to the price. This is nothing to do with the price of the product or the service. This simply means that you have not been able to convince the customers fully about the value of your offering.

If someone sees the value of your product or the service, they find a way to buy it. They never worry about the price if it's the right thing they want.

Therefore, through your message, convince them about the value you offer. Through rule of seven, they will hear about the value you offer many times, so the money will not be a problem.

4. They don't know you

This is the main reason why people do not buy your products or services. Let them know who you are through rule of seven. More they hear about you, higher they will accept you.

Conclusion

Rule of seven is one of the oldest, but practical concepts in marketing. Similarly, rule of seven can be applied to many other areas, where the consumers are concerned. The main learning from rule of seven is the need to repeat what you do.

THE VIRTUAL TEAM

Introduction

A virtual team is a team where the primary method of interaction is done through electronic mediums. When it comes to the medium, it could range from e-mail communications to video conferencing.

Some virtual teams do not interact face-to-face *whenteammembersresideindifferentdemographics* and some virtual teams physically meet up occasionally.

Think of an online business for web development. Someone can start such a business and hire developers, QA engineers, UI engineers and project managers from different parts of the globe.

Since web development does not involve in physical delivery of goods and all the deliveries are done electronically, such a company can exist on the Internet.

Team meetings can be held through conference voice calls or video calls. This virtual team can work towards their company goals and act as a single entity just by telecommuting.

Why Virtual Teams?

There are many reasons for having a virtual team. First of all, it is the technology.

The Internet and related technologies helped enhancing the communication across the globe, where certain industries that do not require the person to be present in physical sense could make much use of it. A good example is a web development team.

Following are some of the top reasons for having virtual teams:

- Team members are not located in the same demography.
- The transportation cost and time is quite an overhead.
- Team members may work in different times.
- The company does not require a physical office, so the logistics and related costs are minimum.
- The type of work done may require high level of creativity, so the employees will have better creativity when they work from a place they are comfortable with *home*.

Types of Virtual Teams

There are many types of virtual teams operating at present. Following are a few of those teams:

- Entire companies that operate virtually
- Tasks teams, responsible of carrying out a specific task
- Friendship teams such as groups in Facebook or any other social network
- Command teams, such as a sales team of a company distributed throughout the US
- Interest teams where the members share a common interest

The Technology

The technology plays a vital role for virtual teams. Without the use of advanced technology, virtual teams cannot be effective.

The Internet is the primary technology used by the virtual teams. The Internet offers many facilities for the virtual teams. Some of them are:

- E-mail
- VoIP *VoiceOverIP* - voice conferencing
- Video conferencing
- Groupware software programs such as Google Docs where teams can work collaboratively.
- Software for conducting demonstrations and trainings such as Microsoft Live Meeting and WebEx.

When it comes to the technology, not only the software matters, the virtual teams should be equipped with necessary hardware as well.

As an example, for a video conference, the team members should be equipped with a web camera and a microphone.

Advantages and Disadvantages

First of all, let's look at the advantages of operating as a virtual team.

- Team members can work from anywhere and any time of the day. They can choose the place they work based on the mood and the comfort.
- You can recruit people for their skills and suitability to the job. The location does not matter.
- There is no time and money wasted for commuting and clothing.
- Physical handicaps are not an issue.
- The company does not have to have a physical office maintained. This reduces a lot of costs to the company. By saving this money, the company can better compensate the employees.

Along with the above-mentioned advantages, following are few disadvantages of using virtual team:

- Since team members do not frequently meet or do not meet at all, the teamwork spirit may not be present.
- Some people prefer to be in a physical office when working. These people will be less productive in virtual environments.
- To work for virtual teams, individuals need to have a lot of self-discipline. If the individual is not disciplined, he or she may be less productive.

Conclusion

Virtual teams are rising in numbers nowadays. Small technology companies are now adapting virtual team practice for recruiting the best people from all over the globe.

In addition, these companies minimize their operating costs and maximize the profit margins. Additionally, the employees working in virtual teams are at advantages when it comes to working in their own home, own time, and reduction of commuting costs.

Therefore, organizations should look into setting up virtual teams for different tasks whenever possible.

TOTAL PRODUCTIVE MAINTENANCE

Introduction

The total productive maintenance TPM is a concept for maintenance activities. In the structure, total productive maintenance resembles many aspects of Total Quality Management TQM, such as employee empowerment, management's commitment, long-term goal settings, etc.

In addition, changes in the staff mindset towards their assignments and responsibilities is one of the other similarities between the two.

Maintenance is one of the key aspects of any organization. When it comes to maintenance, it could represent many domains and areas within a business organization.

In order for an organization to function properly, every running process, activity and resource should be properly maintained for their quality, effectiveness and other productivity factors.

TPM is the process which brings the maintenance aspect of the organization under the spotlight. Although maintenance was regarded as a non-profit activity by the traditional management methodologies, TPM puts a brake on it.

With the emphasis on TPM, downtime for maintenance has become an integral part of the manufacturing or production process itself. Now, the maintenance events are properly scheduled and executed with organized plans.

Maintenance events are no longer squeezed in when there is low production requirements or low material flow in the production lines.

By practicing TPM, the organizations can avoid unexpected interrupts to the production and avoid unscheduled maintenance.

The History

The parent of TPM is TQM. TQM was evolved after the quality concerns the Japan had after the Second World War.

As a part of TQM, the plant maintenance was examined. Although TQM is one of the best quality methodologies for organizations, some of the TQM concepts did not fit or work properly in the area of maintenance.

Therefore, there was a need to develop a separate branch of practices in order to address unique conditions and issues related maintenance. This is how TPM was introduced as a child of TQM.

Although there is a story behind the origin on TPM, the origin itself is disputed by many parties.

Some believe that the concepts of TPM were introduced by American manufacturers about forty years ago and other believe TPM been introduced by the Japanese manufacturers of automotive electrical devices. Regardless of the origin, TPM can now be used across the globe.

The Implementation

Before start implementing TPM concepts for the organization, the employees of the organization should be convinced about the upper management's commitment towards TPM.

This is the first step towards establishing good TPM practices in the organization as shown below.

To emphasize the upper management's commitment, the organization can appoint a TPM coordinator. ,Then it is coordinator's responsibility to educate the staff on TPM concepts.

For this, the TPM coordinator can come up with an education program designed in-house or hired from outside of the organization. Usually, in order to establish TPM concepts in an organization, it takes a long time.

Once the coordinator is convinced about the staff readiness, 'study and action' team are performed. These action teams usually include the people, who directly interface with the maintenance problems.

Machine operators, shift supervisors, mechanics and representatives from the upper management can also be included in these teams. Usually, the coordinator should head each team until the team leads are chosen.

Then, the 'study and action' teams are given the responsibilities of the respective areas. The team are supposed to analyze the problem areas and come up with a set of suggestions and possible solutions.

When it comes to studying the problems at hand, there is a benchmarking process going on in parallel. In benchmarking, the organization identifies certain productivity thresholds defined for certain machinery and processes in the industry.

Once the suitable measure for rectifying the issues are identifies, it is time to apply them in practice. As a safety measure, these measures are only applied to one area or one machine in the production line.

This serves as a pilot program and the TPM team can measure the outcome without jeopardizing the productivity of the entire company. If the outcome is successful, then the same measures are applied to the next set of machines or areas. By following an incremental process, TPM minimizes any potential risks.

The Results

Majority of world's first class manufacturing companies follow TPM as an integrated practice in their organizations. Ford, Harley Davidson and Dana Corp. are just a few to mention.

All these first class corporate citizens have reported high rates of productivity enhancements after implementing TPM. As baseline, almost all the companies, who have adopted TPM have reported

productivity enhancements close to 50% in many areas.

Conclusion

Today, with increasing competition and tough markets, TPM may decide the success or the failure of a company. TPM has been a proven program for many years and organizations, especially into manufacturing, can adopt this methodology without any risk.

Employees and the upper management should be educated in TPM by the time it is rolled out. The organization should have long-term objectives for TPM.

TOTAL QUALITY MANAGEMENT *TQM*

Introduction

There are many approaches in the business domain in order to achieve and exceed the quality expectations of the clients.

For this, most companies integrate all quality-related processes and functions together and control it from a central point.

As the name suggests, Total Quality Management takes everything related to quality into consideration, including the company processes, process outcomes *usuallyproductsorservices* and employees.

The Origin

The origin of the TQM goes back to the time of the First World War. During the World War I, there have been a number of quality assurance initiatives taken place due to the large-scale manufacturing required for war efforts.

The military fronts could not afford poor quality products and suffered heavy losses due to the poor quality. Therefore, different stakeholders of the war initiated efforts to enhance the manufacturing quality.

First of all, quality inspectors were introduced to the assembly lines in order to inspect the quality. Products below certain quality standard were sent back for fixing.

Even after World War I ended, the practice of using quality inspectors continued in manufacturing plants. By this time, quality inspectors had more time in their hands to perform their job.

Therefore, they came up with different ideas of assuring the quality. These efforts led to the origin of Statistical Quality Control *SQC*. Sampling was used in this method for quality control.

As a result, quality assurance and quality control cost reduced, as inspection of every production item was need in this approach.

During the post World War II era, Japanese manufacturers produced poor quality products. As a result of this, Japanese government invited Dr. Deming to train Japanese engineers in quality assurance processes.

By 1950, quality control and quality assurance were core components of Japanese manufacturing processes and employees of all levels within the company adopted these quality processes.

By 1970s, the idea of total quality started surfacing. In this approach, all the employees *fromCEOtothelowestlevel* were supposed to take responsibility of implementing quality processes for their respective work areas.

In addition, it was their responsibility to quality control, their own work.

Basic Principles of TQM

In TQM, the processes and initiatives that produce products or services are thoroughly managed. By this way of managing, process variations are minimized, so the end product or the service will have a predictable quality level.

Following are the key principles used in TQM:

- **Top management -** The upper management is the driving force behind TQM. The upper management bears the responsibility of creating an environment to rollout TQM concepts and practices.
- **Training needs -** When a TQM rollout is due, all the employees of the company need to go through a proper cycle of training. Once the TQM implementation starts, the employees should go through regular trainings and certification process.
- **Customer orientation -** The quality improvements should ultimately target improving the customer satisfaction. For this, the company can conduct surveys and feedback forums for gathering customer satisfaction and feedback information.
- **Involvement of employees -** Pro-activeness of employees is the main contribution from the staff. The TQM environment should make sure that the employees who are proactive are rewarded appropriately.
- **Techniques and tools -** Use of techniques and tools suitable for the company is one of the main factors of TQM.
- **Corporate culture -** The corporate culture should be such that it facilitates the employees with the tools and techniques where the employees can work towards achieving higher quality.
- **Continues improvements -** TQM implementation is not a one time exercise. As long as the company practices TQM, the TQM process should be improved continuously.

The Cost

Some companies are under the impression that the cost of TQM is higher than the benefits it offers. This might be true for the companies in small scale, trying to do everything that comes under TQM.

According to a number of industrial researches, the total cost of poor quality for a company always exceeds the cost of implementing TQM.

In addition, there is a hidden cost for the companies with poor quality products such as handling customer complaints, re-shipping, and the overall brand name damage.

Conclusion

Total Quality Management is practiced by many business organizations around the world. It is a proven method for implementing a quality conscious culture across all the vertical and horizontal layers of the company.

Although there are many benefits, one should take the cost into the account when implementing TQM.

For small-scale companies, the cost could be higher than the short and mid term benefits.

TRADITIONAL PROJECT MANAGEMENT

Introduction

Project management is a practice that can be found everywhere. Project management does not belong to any specific domain or a field. It is a universal practice with a few basic concepts and objectives.

Regardless of the size of the activities or effort, every 'project' requires project management.

There are many variations of project management that have been customized for different domains. Although the basic principles are the same among any of these variations, there are unique features present to address unique problems and conditions specific to each domain.

There are two main types of project management:

- Traditional Project management
- Modern Project management

The traditional project management uses orthodox methods and techniques in the management process. These methods and techniques have been evolved for decades and are applicable for most of the domains. But for some domains, such as software development, traditional project management is not a 100% fit.

Therefore, there have been a few modern project management practices introduced to address the shortcomings of the traditional method. Agile and Scrum are two such modern project management methods.

Definition of Traditional Project Management

First of all, having an idea of the project management definition is required when it comes to discussing traditional project management. Following is a definition for traditional project management.

PMBOK defines the traditional project management as 'a set of techniques and tools that can be applied to an activity that seeks an end product, outcomes or a service'.

If you Google, you will find hundreds of definitions given by many project management 'gurus' on traditional project management. But, it is always a great idea to stick to the standard definitions such as PMBOK.

Traditional Project Management Example

You are working for a company where everyone has a desktop or a laptop computer. Currently, the company uses Windows XP as the standard operating system across the company.

Since Windows XP is somewhat outdated and there is a newer version called Windows 7, the management decides on upgrading the OS. The objective of the upgrade is to enhance the productivity and reduce the OS security threats.

If you have one office with about 100 computers, it could be considered as a medium scale project. In case if your company has 10-15 branches, then the project is a large scale one with high complexity. In such case, you will be overwhelmed by the tasks at hand and will feel confused. You may have no clue of how to start and proceed. This is where traditional project management comes in.

Traditional project management has everything required for managing and successfully executing a project like this. Since this type of project does not require any customizations, modern project management methods are not required.

The company can hire or use an existing project manager to manage the OS upgrade project. The project manager will plan the entire project, derive a schedule, and indicate the required resources.

The cost will be elaborated to the higher management, so everyone knows what to expect in the project. Usually, a competent project manager knows what processes and artifacts are required in order to execute a project. There will be frequent updates coming from the project manager to all stakeholders.

In addition to the regular project activities, project manager will attend to risk management as well. If certain risks have an impact on the business processes, the project manager will suggest suitable mitigation criteria.

Conclusion

Traditional project management is a project management approach that will work for most domains and environments. This approach uses orthodox tools and techniques for management and solving problems.

These tools and techniques have been proven for decades, so the outcome of such tools and techniques can be accurately predicted.

When it comes to special environments and conditions, one should move away from traditional project management approach and should look into modern methods that have been specifically developed for such environments and conditions.

WORK BREAKDOWN STRUCTURE

Introduction

Dividing complex projects to simpler and manageable tasks is the process identified as Work Breakdown Structure *WBS*.

Usually, the project managers use this method for simplifying the project execution. In WBS, much larger tasks are broken down to manageable chunks of work. These chunks can be easily supervised and estimated.

WBS is not restricted to a specific field when it comes to application. This methodology can be used for any type of project management.

Following are a few reasons for creating a WBS in a project:

- Accurate and readable project organization.
- Accurate assignment of responsibilities to the project team.
- Indicates the project milestones and control points.
- Helps to estimate the cost, time and risk.
- Illustrate the project scope, so the stakeholders can have a better understanding of the same.

Construction of a WBS

Identifying the main deliverables of a project is the starting point for deriving a work breakdown structure.

This important step is usually done by the project managers and the subject matter experts *SMEs* involved in the project. Once this step is completed, the subject matter experts start breaking down the high-level tasks into smaller chunks of work.

In the process of breaking down the tasks, one can break them down into different levels of detail. One can detail a high-level task into ten sub-tasks while another can detail the same high-level task into 20 sub-tasks.

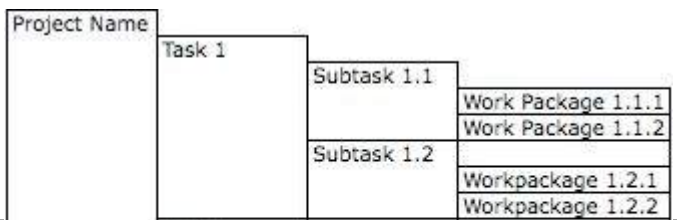
Therefore, there is no hard and fast rule on how you should breakdown a task in WBS. Rather, the level of breakdown is a matter of the project type and the management style followed for the project.

In general, there are a few "rules" used for determining the smallest task chunk. In "two weeks" rule, nothing is broken down smaller than two weeks worth of work.

This means, the smallest task of the WBS is at least two-week long. 8/80 is another rule used when creating a WBS. This rule implies that no task should be smaller than 8 hours of work and should not be larger than 80 hours of work.

One can use many forms to display their WBS. Some use tree structure to illustrate the WBS, while others use lists and tables. Outlining is one of the easiest ways of representing a WBS.

Following example is an outlined WBS:



	Task 2		
		Subtask 2.1	
			Workpackage 2.1.1
			Workpackage 2.1.2

There are many design goals for WBS. Some important goals are as follows:

- Giving visibility to important work efforts.
- Giving visibility to risky work efforts.
- Illustrate the correlation between the activities and deliverables.
- Show clear ownership by task leaders.

WBS Diagram

In a WBS diagram, the project scope is graphically expressed. Usually the diagram starts with a graphic object or a box at the top, which represents the entire project. Then, there are sub-components under the box.

These boxes represent the deliverables of the project. Under each deliverable, there are sub-elements listed. These sub-elements are the activities that should be performed in order to achieve the deliverables.

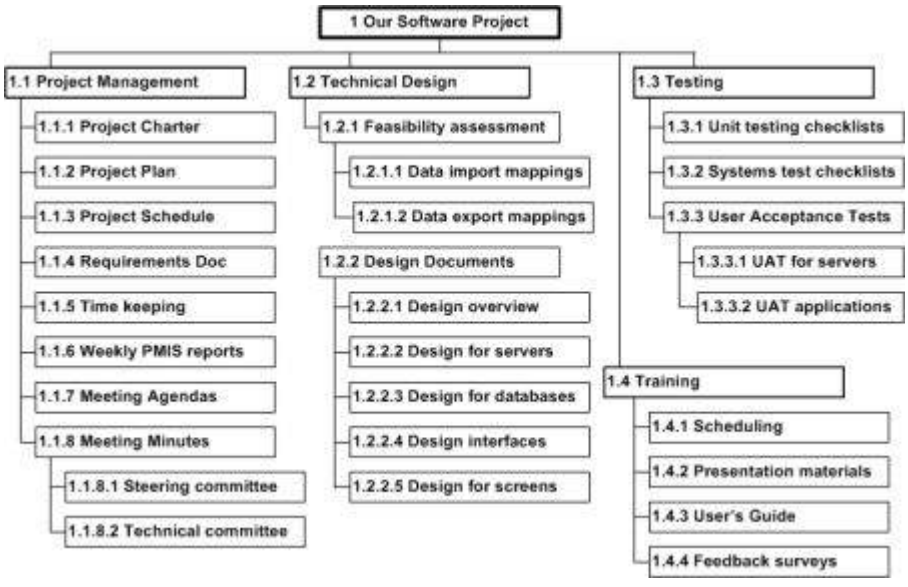
Although most of the WBS diagrams are designed based on the deliveries, some WBS are created based on the project phases. Usually, information technology projects are perfectly fit into WBS model.

Therefore, almost all information technology projects make use of WBS.

In addition to the general use of WBS, there is specific objective for deriving a WBS as well. WBS is the input for Gantt charts, a tool that is used for project management purpose.

Gantt chart is used for tracking the progression of the tasks derived by WBS.

Following is a sample WBS diagram:



Conclusion

The efficiency of a work breakdown structure can determine the success of a project.

The WBS provides the foundation for all project management work, including, planning, cost and effort estimation, resource allocation, and scheduling.

Therefore, one should take creating WBS as a critical step in the process of project management.